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The 5th
International Conference On
Educational Research and Innovation

OPTIMIZING EDUCATIONAL RESEARCH FINDINGS TO IMPROVE THE QUALITY OF LIFE



CONFERENCE PROCEEDINGS

Institute of Research and Community Services Yogyakarta State University
May, 8-9, 2017

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MESSAGE FROM THE RECTOR OF YOGYAKARTA STATE UNIVERSITY

Assalamu'alaikum warahmatullah wabarakatuh.
May peace and God's blessings be upon all of us.

Welcome to Yogyakarta, Indonesia

It is a privilege for Yogyakarta State University to have the opportunity to organise this conference in which educational researchers and practitioners get together to share ideas, experiences, expectations, and research findings. This conference is one of the agendas of Yogyakarta State University to celebrate its 53rd anniversary. It also marks the new era of Yogyakarta State University with its new leaders and leaderships with new priority programs hoping to excel this university to the new level that is internationally recognized – the World Class University.

One effort that this university is doing is making sure that fruitful research is among the priorities. So far, however, the research findings produced by universities, research institutes, schools, and practitioners have not been optimally disseminated and utilized and have not produce maximum impact on the improvement of quality of life. Findings of research should be able to benefit not only for the researchers themselves and their limited communities, but also to the wider communities and worldwide. This is what Yogyakarta State University wants to promote, while improving its impacts to the scientific life worldwide by encouraging researchers to publish their articles in internationally reputable journals.

This fifth International Conference on Educational Research and Innovation (ICERI), in particular, aims at facilitating researchers, educators, scientists, and students to exchange and share their experiences, new ideas, and research findings about all aspects of education, research and innovation, and discuss the practical challenges encountered and the solutions adopted to improve the quality of life. With the commitment to improve the impact of research, this year theme is "Optimizing Educational Research Findings to Improve the Quality of Life."

Finally, let me acknowledge the hard work of all committee members who have devoted their time and energy to make the conduct of this conference possible. I would also use this opportunity to wish all of you a happy conference and hope this conference be one of the conferences that really contribute to the upbringing of the scientific life.

Wassalamu'alaikum warrahmatullah wabarakatuh.



Yogyakarta, 8 May 2017

Rector,

Prof. Dr. Sutrisna Wibawa, M. Pd.

MESSAGE FROM THE ORGANIZING COMMITTEE

Assalamu'alaikum warrahmatullah wabarakatuh.
May peace and God's blessings be upon you all.

First of all allow me to extend my warmest greetings and welcome to you all to the 5th International Conference on Educational Research and Innovation, organized by Yogyakarta State University to celebrate its 53rd anniversary. The conference is held for two days – May 8 and 9, 2017.

Raising the theme – Optimizing Educational Research Findings for Improving the Quality of Life - this conference is designed to explore how various findings of educational researches and applied researches from academicians, researchers, practitioners, educators, bureaucrats, teachers, and students are optimized to improve the quality of life. Hopefully, this conference will contribute various inspiring innovative thoughts and proactive strategies for the systemic and sustainable improvement of the quality of life.

For your information, we will proudly present one keynote speech, three plenary presentation sessions and four parallel presentation sessions. Seven outstanding speakers in the field of character education and educational research have been invited. They are Prof. Laurance Splitter, Ph.D. from Education University of Hong Kong, also representing Asia Pacific Network for Moral Education (APNME), Prof. Richard Luke Daniels from the College of Idaho, USA, Dee Dee A. Salle, Ph.D. , an Exercise Physiologist, Nutritionist, and Consultant from Singapore, Dr. Minako Sakai from the University of New South Wales, Australia, Dr. Nurul Taufiqu Rochman, M.Eng., Ph.D. from Indonesian Institute of Sciences (LIPI), Indonesia, Dr. Deendarlianto from Universitas Gadjah Mada, Indonesia, and Prof. Dr. Sri Atun from Universitas Negeri Yogyakarta, Indonesia,

We have done our best to prepare for this conference. So, my highest appreciation and heartfelt thanks to all committee members. As to err is human, shortcomings may occur here and there. On behalf of the committee, I would therefore like you all to accept our apologies.

At the end of my speech, I would like to kindly request the Rector of Yogyakarta State University to officially declare the conference open.

To conclude, let me wish you a productive discussion and a fruitful conference.
Wassalamu'alaikum warrahmatullah wabarakatuh.
May peace and God's blessings be upon you all

Yogyakarta, 8 May, 2017
Head of Research Institute and Community
Service of Yogyakarta State University

Dr. H. Suyanta, M.Si.

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POWERFUL THINKING AS KEY TO IMPROVING THE QUALITY OF LIFE

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We are living in worrying, some would say dangerous, times. It is not difficult to identify some of the large problems that are confronting us – where by “us” I mean everyone, indeed the world itself. In this paper, I shall have to mention these problems, although they will be pretty familiar to most of you. But my message here will be that not all is doom and gloom. I will propose a certain kind of conceptual shift in the way we treat ourselves and one another, and discuss some of the key implications of this shift for various aspects of education.

The problems I have in mind, along with the solutions I envisage, are linked to education in key ways. In general terms, what happens in schools (which are the state’s major institution for educating its young people) is largely a function of the social, cultural and political environment in which they exist and are managed. Secondly, and more to the point of my paper, what happens – or does *not* happen – in schools has a direct impact on the events and situations that lie at the heart of the problems. In short, there is a mutual interaction here. In particular, as painful as it may be for us educators to concede, we and our institutions must bear a good part of the responsibility for the world being in in such a mess. Conversely, however, the challenge of “repairing the world”, especially for future generations, is one to which educators today can make a valuable contribution.

There are many dimensions to this “mess” and let’s be honest: they affect some people and communities much more than others. The “one step forward, two backward” approach to climate change politics is very concerning, even more so for the millions of citizens of countries and cities that are literally either drowning or drying up. Those angry and frustrated voters in the USA and other “democratic” societies, who are feeling ignored or forgotten by their own governments, may have made some questionable electoral decisions, but their plight is very real. Likewise for those living under the oppressive thumb of a dictator or tyrant – and there are quite a few around, particularly at a time when “democracy”, so called, is not doing so well (and it is worth noting that in many of these countries, the leaders have the support of a majority of citizens). And

in the global scenario that most graphically reflects the obscenity – and the absurdity – of our times: countless numbers of people – already among the world’s poorest and troubled – find themselves betrayed by and/or expelled from their own countries, yet are unable to find places of safe refuge in others. Taking a broader conceptual perspective – which philosophers tend to do – against a background of unprecedented levels of scientific knowledge and technological advancement, there are disturbing signs that we are living in a time of moral, epistemological (knowledge and truth-based), and logical (reason-based) crisis.

- Moral crisis: Globalization may have the potential to bring people, nations and cultures together, but the free-market economics driving it has widened the gap between the extremes of wealth and poverty, and left millions feeling ignored and trapped. As a visceral response to the “amorality” of the “free” market, citizens are increasingly turning inwardly, to follow those who promise them a better future, one that focuses on *their* needs, and not the needs of “others” whom they see as the beneficiaries of elitist policies and politicians. But this future is one of tribalism, nativism and nationalism; very much an “us *versus* them” moral framework, in which the dispositions of selfishness, fear and even contempt for others have replaced those of respect, care, benevolence and acceptance. Such “populist” trends are on the ascendance in many countries.
- Epistemological crisis: Populism relies on selling people an image of society that is appealing but almost certainly unrealistic (one characterized by full employment, widespread prosperity, lower taxation and self-dependence). Its leaders make bold promises, accusations and threats (targeting others) with impunity, knowing that they will never be held to account if and when

these predictions fail to come to pass. Such practices used to be called “lying” but now are merely “alternative facts”. Climate-change policies and commitments interfere with a resurgent fossil-fuel industry, so they can be conveniently dismissed as false or, at least, exaggerated. If, later, the promises fail to materialize then, of course, they were never made in the first place (or were made by someone else, etc.). Scientific and other forms of expertise no longer matter, especially if they interfere with what populists want to hear. Ironically, populists tend to reject the wisdom and advice of genuine experts, even as they swallow the lies and half-truths tossed around by those they are following at the time.

- Logical crisis: More than ever, the tools of good thinking: reasoning, consistency, questioning, detecting fallacies, identifying hidden assumptions, expressing doubt... are associated with “elitist” thinking and are thus characterized as irrelevant, even dangerous. It is a waste of time attempting to use logic and reason to persuade people whose thinking is blinded by their emotions. As someone recently observed, “You cannot reason someone out of a position that they have not reasoned themselves into.” Likewise, it is pointless trying to tell an unreasonable person that they are being unreasonable.

In the face of these crises – or this crisis, since they are all one with where the world finds itself right now – there seems to be little room, or incentive, to consider something as apparently esoteric and remote as *the quality of life*. After all, where the focus is almost exclusively on issues of *quantity* – thanks to the obsession with material wealth and consumerism – considerations of quality seem somewhat quaint, even irrelevant. However, I do not believe that we can afford to ignore the qualitative dimensions of our experiences and lives, and I am grateful for this opportunity to share some thoughts with you who, I am sure, are in agreement on this point.

I submit that the dimensions of crisis to which I am referring stem from a distorted sense of how we see ourselves in relation to others – or rather, in the individualistic Western model which has dominated economic and political

models, especially since the end of the Cold War, how we see ourselves *independently of* others. Morality, which provides guidelines for how each of us should relate to one another, becomes withered, distorted and corrupted when it is turned back on itself to consider only the well-being and interests of the individual. This is true both for individuals like you and me, and for individual states and nations (even for such pseudo entities as corporations). Furthermore, knowledge – including self-knowledge – becomes impossible when viewed as an individual project that each of us can somehow undertake alone, in isolation from others. And thinking itself, when seen to be confined to each individual thinker’s own mind, becomes impotent. In saying these things, I am effectively rejecting the West’s most common-place and intuitive conception of the *mind*, according to which I know my own mind – including my thoughts, my feelings, ideas, etc. – *subjectively* and intuitively, before I have knowledge of other minds and of the world itself. To a great extent, our systems of education reflect such a subjectivist conception. After all, we still tend to see teaching and learning as relationships between teachers and *individual* students; we still assess students independently of one another, according to what each of them “knows” and can do; and we still reduce education to various forms of “vocational training”. At a broader level, this provides a picture of society as a collection of individuals in competition with one another from childhood on. It sees each person as one *against* others.

In such an environment, whether in school or later, in the workplace and society in general, individuals are left alone and unprotected by anything beyond their own internal resources. Depending on such factors as genetic inheritance, basic intelligence, and just plain luck, some may well thrive, at least in material terms; they are destined to take control in and over the kind of capitalistic free-market structure that determines who will succeed and who will fail (witness the growing proportion of the world’s wealth in the hands of fewer and fewer individuals). But many others will fail to thrive, including those who are, in due course, driven to embrace populist causes and leaders who offer hollow promises of success and prosperity, and divert the blame for their predicament away from their own failings onto the wrong-doings of “others”. It is, of course, no coincidence that such an individualistic perspective is very much in line with traditional male-centred or *patriarchal* lines of control and authority. Needless to say, these have by no means been confined to the West.

For some societies and cultures, particularly those that have developed independently of Western models whose origins lie in the Enlightenment that fostered liberal ideas in schools, art, literature and politics, this kind of individualistic thinking has long been rejected. Instead, we find a commitment to some form of *collectivist* thinking, according to which our sense of ourselves as moral, rational, truth-seeking beings depends upon some-*thing* larger than ourselves, in the sense that it has an objective place in the world, independently of each of us. Historically, this larger thing has been a specific culture, nation, ethnicity, religion, tradition or way of life (also gang, cult, clan, caste...). *My* existence, *my* morality and *my* achievements are to be seen and judged in terms of the existence and moral code of the whole, outside of which I count for nothing.

The problem with such collectivist thinking is that it fails to provide any incentive or guidance when we seek to go beyond this or that specific collective (culture, tribe, nation, religion, way of life, tradition), or merely to question its significance to our own lives (which is something many adolescents tend to do). This problem must have been evident even back when the interaction between and movement from one village or tribe to another was extremely limited; but it is especially pressing in our time, in which virtually no society or grouping, however small or isolated, can remain untouched by others. But the so-called “clash of civilizations”, to use a familiar term, can be viewed either negatively or positively; as a threat to the survival of the group in question or as an opportunity for the members of different groups to broaden their horizons and move forward together.

Somewhat ironically, the surge of nationalistic, even tribal sentiment that we are seeing in many parts of the world, is attractive *both* to individualists and collectivists, as I have characterized them. Individualists can claim that *their* nation (or *their* religion...) is superior to others (this is the idea of one nation/religion... against others), while collectivists can point to the importance of the whole over any one of its parts. Similarly, we are becoming more aware of the enormous psychological toll on many young people in different societies as they find themselves hostage to ever-increasing standards of “success” at school and in the work-place. Increased rates of youth suicide, depression, alienation and isolation are now found in many countries. Here, too, we see the worst aspects of individualism *and* collectivism, where individuals find themselves not just competing with one another, but feeling powerless in the

face of something bigger than them: a society, culture, school or family standard, etc.

The way forward here involves rejecting both individualism and collectivism, in favour of what I call a *relational* view of who we each are in the world. Rather than seeing ourselves either as isolated individuals in competition with others, or as powerless creatures controlled by forces beyond our control (be they in the form of nations, religions, cultures, etc.), each of us is – and should see her/himself as – *one among others*, where the “others” here are other persons, just like me. The familiar concept of *person* is crucial here; it goes beyond biology to highlight what is most important in moral and intellectual terms: our capacity for *self-awareness*, not as some mysterious insight arising out of nowhere, but as the inevitable by-product of interacting with others in a common world. I am saying that the sense of ourselves as persons that each of us develops is linked directly to those relationships that we actually have with others. This sense of *groundedness* is extremely important, as I shall explain.

Historically, morality and ethics come out of philosophy, whether we are thinking of Confucius, Socrates, Aristotle, Kant or any of the great thinkers from different traditions. And in all of these accounts, the concept of *person* is central. This concept defines the domain and limits of morality in the sense that moral rules, principles and values apply to all persons, and only to persons. Our capacity for reflective thinking (self-awareness) implies that we are able to ask questions about, and evaluate, our behaviour, particularly in regard to others, and in this we find the grounding for morality. Regardless of the actual origins of this or that moral code or framework, morality itself *transcends* and overrides the various classifications that have both united and divided humans ever since we sought out others who were like ourselves in one way or another. Scholars may argue the merits of specific ethical theories, but it seems clear that those theories which have endured – including utilitarianism, Kantian ethics, virtue ethics, Confucianism, etc. – *prescribe* behaviours and norms that apply to *all* persons. In this brief outline, I am using the terms “transcend” and “prescribe” deliberately, to signal a conceptual approach that is unifying rather than divisive, and that has important implications for education in general, and moral education in particular.

A comment about Confucianism as an ancient model of personhood which can also be characterized as both relational and grounded. Perhaps inaccurately described as an ethical or

moral *theory*, Confucianism takes as fundamental many of the relationships we experience during the course of living: child/parent, student/teacher, etc. While it would be extremely foolish to cast judgment on any tradition that has stood the test of time and been so influential in the formation of entire nations and cultures, I do want to distinguish such an asymmetric or hierarchical relational account from the one I wish to advocate. Without wishing to comment on the tradition of not questioning or challenging the power structures inherent in such relationships, I am proposing that the ordinary concept of *person* already focuses our attention on such key moral questions as how we ought to treat one another, what a fair and just society looks like, etc. It may well be that certain types of relationship have inbuilt rules and expectations concerning loyalty, obedience, honour and the like, but these are built on and are presupposed by, the relationships that persons have with one another in an ordinary non-hierarchical sense.

To make sense of what I am proposing here, we need to be clear about certain types of what I call “powerful thinking” that go beyond the normal scope of *empirical* investigation and inquiry. Notwithstanding the dominance of empirical research methods (i.e. those based on experience, observation and experimentation) in the social sciences – including in education – we need to go beyond the boundaries of what *is* to ask about what *could* be, and what *should* be. Indeed, students, too, can engage in this kind of thinking from a young age, for it is a natural by-product of inviting them to think together as *one among others*.

To take the concept of *person* seriously is to be willing to separate the world of *what has been* and *what is* from the world of *what could*, *might* or *should be*. We can accept the empirical truth that the moral values and norms which characterize individuals, societies and cultures are rooted in our traditions and life narratives, including our affiliations with specific nations, ethnicities, religions, tribes and roles. But as expressed by the philosopher Alasdair MacIntyre, in his classic work *After Virtue*, in the *quest* for what constitutes a sense of “the good life for man”:

...the medieval conception of a quest is not at all that of a search for something already adequately characterised... it is in the course of the quest... that the goal of the quest is finally to be understood... *the good life for man is the life spent in seeking for*

the good life for man... (MacIntyre, 1984, p. 219, emphasis added)

Context and circumstance ‘constitute the given of my life, my moral starting point’, and we need to locate ourselves in these particularities in order to know where to begin the quest, but ‘it is in moving forward from such particularity that the search for the good, for the universal, consists.’ (p. 221).

Crucially, MacIntyre acknowledges that the quest we each undertake, which he sees as both end and means (i.e. both the good life and the search for the good life) cannot be taken alone: ‘What matters ... is the construction of *local forms of community* within which civility and the intellectual and moral life can be sustained through the new dark ages which are already upon us’ (p. 263, emphasis added). I shall come back to this point.

In philosophy there is a well-known distinction between statements of *fact* and statements of *value*. To *describe* something in terms of what it *is* is quite different from *prescribing* something in terms of how things *should* or *ought* to be. The world of “what is” is known by us through our own observations and experiences and, at higher levels of organization, through such disciplines as the sciences – including the so-called social sciences – but also history, anthropology, etc. Even when we refer to a specific culture or tradition to explain different forms of practice – including *moral* and religious practice – we are still on the side of *describing* what *is*. But when we make *judgments* – whether in ethics, logic or even aesthetics – we move to the domain of *evaluation* in which our *values* play a key role. If I judge certain actions to be morally wrong (bad, unfair, unjust, ...), I am not stating a fact but offering an evaluation or prescription based, presumably, on certain *values* that I hold. As a generalization, I could say that where descriptive or factual conclusions rely on *evidence*, prescriptive, moral or value conclusions rely more on *reasons*. But this won’t quite work because in our best thinking across all disciplines and domains, we insist on high standards of both evidence *and* reasoning. It’s just that when it comes to ethics, the outcomes of our thinking are based on what Aristotle referred to as “practical reasoning”, which means “reasoning that provides a justification for action”; the conclusions of practical reason are prescriptions for how we *should* behave, not descriptions of what *is*.

We are now faced with an important question: if the evidence presented to us is of a factual or descriptive nature, how is it possible –

in a logical sense – to *justify* conclusions that are themselves moral or *prescriptive*? In short, how, logically speaking, do we infer “ought” from “is”? The answer is” “with great care and humility, and always with a sense that *we might be mistaken!*”.

Those who ignore or underestimate the gap between “is” and “ought” often resort to one or more of the following – I would say fallacious – procedures:

1. They use descriptions or facts as justification of moral principles, rules, etc. Sometimes this seems ok, as in “There are millions of people in my own country, let alone elsewhere, living in poverty; I have more than enough for my own needs; therefore I *should* share some of my wealth with them”. But what about this: “That young woman disgraced herself and brought shame on her family by committing adultery; therefore it is morally appropriate for the family to inflict the most severe punishment on her”? In both examples, there is a “gap” between the starting premise and the conclusion. In the former, this gap could be filled with something like “Assisting the poor is a moral responsibility for the wealthy”, or “Some form of wealth distribution is necessary to achieve social justice”; but notice that these additional claims are, themselves, *ethical* or value statements, because they also state what *should* be done. This points to something I shall come back to shortly. But let’s look at the second example, concerning “honour killing”. One way to fill the gap would be to appeal to the prevailing culture: “Our tradition/religion makes clear that adultery is shameful and that the family must respond by executing the adulteress.” The difficulty here is that in appealing to culture and tradition, we do *not* move beyond what *is*; it would be like saying “In our culture we burn women accused of being witches, so it is morally ok to do this.”
2. They base their moral judgements on strong *feelings* or emotions that they, or society in general, have about certain issues. “Homosexuality is abhorrent/disgusting and should be illegal”, is a familiar and still current example in some parts of the world. On the one hand, it would be foolish to discount the link between morality and

emotion, and a society that ignores or violates the strong feelings of many of its citizens is asking for trouble, particularly in a democracy. But on the other hand, statements of feeling and emotion have to be seen for what they are: *descriptions*, albeit partly subjective ones, that do not, in themselves, require any support. It’s just how we (or I) *feel*. Most would agree (!) that this is a fairly flimsy basis for moral reasoning, although we all know the power of emotion to move us to act in certain ways. This is also something I shall return to.

3. They appeal to a (higher) authority in order to justify claims of a moral nature. This is really a special case of (1), in which the factual justification is the “knowledge” that this is what the authority (e.g. God or Allah, or our culture or tradition) demands. This led Socrates to ask, two thousand years ago, “Is it good because the gods demand it, or do the gods demand it because it is good?”. If the former, then what counts as good (or bad) seems somewhat arbitrary, depending on whether or not one happens to worship or trust that particular authority. But if the latter, then it seems appropriate to ask for an independent justification of what is good.

My interpretation of the “is/ought” distinction is that moral claims can only be justified by appealing to other moral claims which are more or less acceptable. This can still lead to disagreement, as happens in the ongoing discussions about abortion; even if we agree that the killing of an innocent person (or human being?) is morally wrong, it is not clear to everyone that a human foetus is actually a person. Still, even such a modest understanding of the key concepts involved seems relatively sophisticated, compared to the bitter, often hysterical terms in which the issue is discussed in some contexts.

When we look (back) to the institutions, traditions, and affiliations that have divided people through history and in the present day, we may despair at the prospect of finding a way to move forward together. But those of us who have sat down with young people from a wide diversity of backgrounds – particularly in those precious and still rare instances where these different backgrounds are represented *here and now* (Jewish Israeli and Palestinian kids engaged in dialogue together, Indian and Pakistani kids,

Chinese and American..., etc.) – know from first-hand experience that if only we can overcome the initial barriers of mistrust and disrespect and encourage such *communities of thinkers* to talk with and listen to one another, then as the dialogue progresses, the chasms of difference recede and the bonds (which are cognitive as well as affective) wrought by our common personhood or humanity strengthen.

The point of introducing (more) opportunities for dialogue in our schools and other institutions (where appropriate) is *not* to seek agreement or consensus, nor to impose a bland uniformity of ideas and values but, at the very least, to nurture a degree of mutual understanding and appreciation both for our own points of view and those of others. Returning to the three-fold crisis that I described earlier:

- Communal dialogue requires and fosters mutual respect, i.e. respect for oneself and others *as persons*; each participant retains, indeed enhances her own sense of who she is in relation to others, but realizes that respect and care are mutually reinforcing: I want to feel valued and so I must value you in order to be valued *by* you....
- A community of dialogue (aka a community of *inquiry*) is not defined by what its members know, or claim to know. But then the sense of epistemological crisis to which I referred earlier is not focused on how much is known, but on a growing indifference to the value of knowledge and truth over ignorance and falsehood. A commitment to community and dialogue requires us to be honest and open in declaring what we believe, and willing to have our beliefs subjected to scrutiny and evaluation by the whole community. Members of such a community are passionate in their search for knowledge and understanding, but not for egotistical or narcissistic reasons.
- Good or “powerful” thinking is inevitable in a community of thinkers because each member of the community comes to detest weak or sloppy thinking, and seeks to improve it, whether or not that thinking is their own or another’s. Where one individual is good at generating or creating ideas as hypotheses or hunches, another can detect inconsistencies and fallacious thinking, while yet another is particularly skilled at

deductive or inductive reasoning, using analogical thinking, etc.

I regard dialogue as nothing more – or less – than both the means for, and the product of, bringing together individuals who are striving to become persons. In this process, there are actually three points of intersection that are in play from the perspective of each person involved: that person’s own ideas and awareness of those ideas (self-awareness); that person’s awareness of others with whom he/she is engaged in dialogue (awareness of others); and that person’s awareness of the world which he/she is both constructing (with others) and held accountable to. This kind of *triangular* framework allows thinkers to maintain a healthy balance between what they and those around them think and believe, on the one hand, and what they must be prepared to accept as reflecting how the world is, on the other. If we construe dialogue as a way of “thinking together” or “thinking out loud together” – which matches the idea that thinking is the result of internalized dialogue – then improving and maintaining the quality of dialogue – hence, of thinking – will be seen by learners as their strongest tool in improving and maintaining the quality of their lives.

I noted the power of our emotions to distort our thinking, but powerful thinking should not be viewed as emotion-free. Indeed, such thinking is energized and even driven by a sense of passion for ideas. Thinkers of any age or in any subject area, like scientists and scholars generally, are intrigued and puzzled by things they do not understand and are determined to make at least some progress along the path toward understanding and truth. They are *courageous* in being willing to “try out” new or unusual ideas, to be the lone voice in dissenting from popular opinion, etc. But – and here I come to the very crux of the matter – they also display a certain *humility* – a willingness, even eagerness, to *self-correct* (change their minds) when given reason to do so.

If I have to select one attitude or trait of character that is most urgently needed as an antidote to much of the madness and mess we see around us today, it would be that of *intellectual humility*. Imagine the effect on students in classrooms if their teachers are able to say – or even just to reflect: “Well, I am not sure about that”, or “Perhaps I have to rethink my answer”. And on a broader stage, imagine if political and civic leaders of all stripes and persuasions could match the passion they profess to feel for their own ideas and those of the parties and people

they represent, with a cautionary yellow warning light: “Yes, but I might be wrong”. This may be unrealistic in practice, but bearing in mind that these individuals were school students at an age when they might have been open to alternative viewpoints and ways of thinking, I remain optimistic that if teachers today can encourage their students to acquire and internalize, not just knowledge and skills, but those traits of character that lie at the heart of powerful thinking, then we are doing our best to leave the world in safe hands.

References (to follow)

DEVELOPMENT OF WATER SAFETY GUIDE BOOK AND TUTORIAL VIDEO IN AQUATIC LEARNING AT PRIMARY SCHOOL

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Abstract

An accident in the pool can happen to everyone, whether they can swim or not to swim. One type of accidents that often occur in the pool is drowning and is one of the highest risks in aquatic learning. The first phase of this research have succeeded in preparing 28 types of maintenance activities in the water that has been identified to be implemented in primary schools. Draft handbook contains a wide variety of safety activities in the water with the contents of the book include: Name of the event; Picture; Aim; Equipment; Water depth; The place settings; Activity instructions. The purpose of this second phase of the study: (1) Develop a model of safety in the water, (2) To test the model in water safety, (3) Test the level of effectiveness, efficiency and attractiveness of the model of safety in the water. To achieve these targets, the study was designed through research and development, which aims to create a model for safety in water in the form of manuals and video tutorials. The subject of research to develop a model of safety on the water is a physical education expert, aquatic learning experts, professional practitioners (supervisor pool). Subject test models are elementary school students. Data analysis using descriptive statistics, t-test and analysis of variance.

Keywords: water safety, aquatic learning, primary school

1. Introduction

Water accidents such as drowning can be resolved with a minimum standard rescue possessed by each individual. Some cases illustrate the drowning incident caused by weak oversight, negligence swimmers, tools and inadequate facilities, and most importantly because of the failure in first aid for handling emergency cases of accidents in the water. Based on cardiovascular physiology, then when submerged within 5 minutes then it has a high degree of risk of death. Similarly, the time first aid fast and precise, it is helpful to salvation (Meaney, Peter & Culka, Sarie, 2005: 102). Currently not many places that are sufficient to teach how children in particular, have knowledge of the security and safety on the water. According to Sawyer (1998: 6), PE program is one of the media the right to teach kids about safety behavior both in the pool and around the pool. Children can be introduced to the basic rules about personal water safety while swimming or during activities outside the classroom. An accident in the pool can happen to everyone, whether they can swim or not to swim. One type of accidents that often occur in the pool is drowning and is one of the biggest risks in aquatic activities.

Several other risks that may occur include water injury, cramps, respiratory problems,

headaches, and fainting. In addition there is also a safety risk to the health risks of student participation in the learning aquatic. Health risks include, among others hypothermia, water poisoning, skin irritation, eye irritation, and possible spread of infectious diseases. This incident is a serious problem that could threaten the health and safety of students. Reduce the possibility of drowning or other water type of injury is a shared responsibility among PE teachers, parents, and lifeguard.

However equip themselves with knowledge of the security and rescue capability is a prudent action (Graver, 2003: 65). Lesson in the curriculum of physical education, scope or aquatic material remains. This suggests that the role of PE is very important, which gives students the opportunity to be directly involved in a variety of learning experiences through physical activity, play and sport (Bucher, C.A., Wuest, D.A, 1995: 73). The experience of motion obtained student in PE is an important contributor to the increase in enrollment at the same time is an important contributor to the welfare and health throughout life (Siedentop, 1990; Ratliffe, 1994; Thomas and Laraine, 1994; CDC, 2000).

2. Method

The study design using qualitative research (Borg & Gall, 1989). Qualitative research is

expected to provide an overview of the perceptions of students and teachers as the manager or PE teacher aquatic program at the school, about the level of safety needs in water safety as well as the direction of the development of aquatic instructional program they expected. Methods of collecting qualitative data used is the method of triangulation of data consisting of: (1) Focus Group Discussion on a group of school students, (2) In-depth interview on PE teacher, (3) Observation of non-participant in swimming pool. Sample was taken by purposive sampling in 5 schools (10 PE teacher's). Justifying the selection of the study because the school would have been and still perform the aquatic learning programs regularly.

The research instruments used were: (1) To reveal the level of teachers' understanding of the water safety using questionnaires and document analysis, (2) To reveal the pedagogical competence and water safety using observation sheet instruments. Analysis of quantitative data, the data is used to interpret the results of the questionnaire technique. The steps of the data analysis will be conducted: (1) data reduction; (2) create a display of data; (3) presented the findings, draw conclusions from the implementation of water safety.

3. Result

The research subjects a number of ten teachers. Criteria ability of teachers views of how to pour a safety element in the water within the framework of RPP, among others: (1) **Preparation** (Learning Objectives, SK, KD, Indicators of Success), (2) **Implementation** (Introduction, Core Training, Cover), and, (3) **Evaluation** (Assessment of Learning Outcomes).

a. Preparation (Learning Objectives, SK, KD, Indicators of Success)

In this study we want to know PE teacher pedagogical competence in preparing Preparation aquatic learning in which there are elements of learning objectives, standards of competence, basic competence, and indicators of success. The results showed that the average, known to have a 80% or 8 teachers who have been carrying out aquatic learning and is an indicator of the Good category. There is a 20% or 2 teachers who have not been able to prepare lesson plans and learning aquatic an indicator on the category of Less.

When analyzed why teachers have a very good ability in preparing the RPP aquatic learning at the preparation stage because the

schools concerned to implement on a regular basis so that the learning aquatic preparation needs RPP becomes a necessity. Factors infrastructure especially learning the complete pool is another success factor. Another analysis was that the school is limited to the cost to implement.

b. Implementation (Introduction, Core Training, Cover)

In this study we want to know PE pedagogical competence of teachers in preparing lesson plans teaching elementary physical education in the implementation of the learning phase. The results showed that the average proportion of teachers in preparing lesson plans teaching aquatic, known to have a 60% or 6 teachers pay less attention to safety norms in the aquatic learning process. There is a 40% or 4 teachers who are already implementing learning by paying more attention water safety. Implementation phase including less category.

c. Evaluation (Assessment of Learning Outcomes).

In this study we want to know pedagogical competence elementary school physical education teachers in learning evaluation or assessment of learning outcomes. The results showed that the average proportion of teachers in preparing lesson plans, known to have a 60% or 6 teachers who have not carried out the evaluation of aquatic learning.

4. Discussion

Therefore, based on the instruments used in this study, it was clear that pedagogical competence of physical education teachers in preparing lesson plans at this stage of evaluation including less category. When analyzed why teachers have less ability in preparing the RPP at the stage of evaluation because more teachers evaluate the sequence of motion or the motor learning swimming skills rather than on factors of safety in the water.

This contrasts with the learning objectives that promote aquatic safety factor in the water. Thus of the three stages of learning: Preparation, Implementation, and Evaluation, it is known that on the third stage has not been able to develop a lesson plan teachers learning aquatic particularly on safety factors in the water. The analysis can be broken is for the teachers still do not understand how to convey the material safety in the water on aquatic learning.

Therefore it can be concluded that the form of water safety activity for elementary school

students can be used for small-scale trials. Feedback in the form of suggestions and comments on water safety products, is essential for improvement at a later stage. The following are various inputs and suggestions from experts and teachers: (1) The format of heating needs to be uniformed with the core learning format that includes the focus of skills, activity description, drawing, time allocation, and repetition; (2). Some types of heating are considered endanger the safety of students so it needs to be replaced with other types of heating; (3). Given safety signs with reference to the pool: knee, waist, or deep pool; (4) Given group restrictions: beginner, intermediate, or advanced; (5). Picture the activity when quoting from the book, please include the source of his book.

The results of the questionnaire filling is conducted by each expert and teacher obtained on average more than three (3) or into the category ratings "**good / right / clear**". Thus the product safety in the water can be used in trials. There are 28 types of draft forms in water safety activities that successfully created. The draft in the form of the manual is validated by a physical education specialist and aquatic learning media. The guidebook contains various forms of water safety with the contents of the book, among others:

1. **Activity Name.** Event name is another name of the event title.
2. **Drawings.** The picture shows a description of motion to make it look interesting.
3. **Purpose.** The purpose of the activity is the main activity, for what is done and with what purpose is done.
4. **Supplies.** Shows what tools and supporting equipment should be prepared.
5. **Water Depth.** Consists of depth knee, waist, or deep.
6. **Place Settings.** To form the formation and preparation of the place.
7. **Activity Instructions.** The main description of the order or water safety signs.

In aquatic learning it is necessary to consider the rules of implementation by prioritizing safety principles. The introduction of aquatic learning and habituation of water should consider the level of child maturity. The child's reaction to the aquatic learning process depends on several factors such as age level, motor characteristics, language, cognitive development, socialization level, and emotional

factors. In short title in the form of water safety are as follows:

DRAFT FORMS OF WATER SAFETY ACTIVITIES **Kincir Bola**

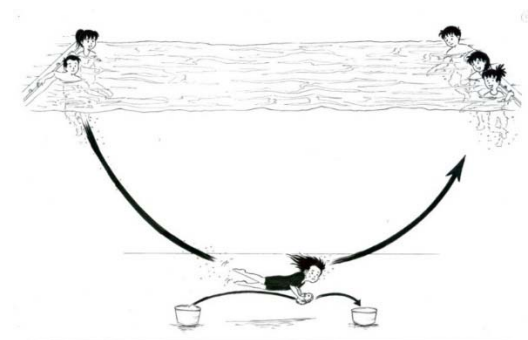


- Purpose: To train kicks (stroke) legs to be strong.
- Level : Advanced
- Equipment: Ball of 15 cm or a float board.
- Water depth: Waist.
- Number of Participants: Small groups throughout the class.
- The setting: a single student or alternating with activity other
 - groups.

How to play :

Students on his back facing up and showed a strong leg kick while crossing the width of the pool, while the ball or float board from one hand to the other hand with the arm fully stretched at the top of the body (see picture).

Pindah Batu



- Objective : To hone the courage to swim in surface and diving while carrying an object.
- Level: Intermediate / Advanced.
- Equipment: Two iron bucket and a clean rock for each team.

- Water depth: Depth.
- Number of Participants: Small groups to the whole class.
- Settings: Each team consists of four to six people with alternate
- format, cooperation along the pool.

How to play :

Two buckets placed at a distance both approximately 5 meters placed in the bottom of the pool with a stone in the bucket first. When cue began, the first students to dive into the water, swam to the first bucket, collecting bricks, put them into the second bucket, to the surface and swam until the end of the pool. All students repeat all movement until everyone gets a turn. Note: If necessary, swimmers can take the air at the surface of the stone after taking the first bucket.

Renang Menolong



- Purpose: To train the use of arms to push.
- Level: Intermediate / Upper.
- Equipment: One sheet of paper for each team.
- Water depth: Depth.
- Number of Participants: Small groups of up to the entire class.
- Setting: A team consists of six people in formation opposite.

How to play:

Each student each holding a newspaper. When cue began, the first students into the water along with his newspaper, swam towards the second player and give the newspaper the second student, who then swam toward third student, and so on. The main objective of the game is to keep the newspaper in order to remain dry. The first team to finish with dry newspaper is the winner.

Mengirim Benda

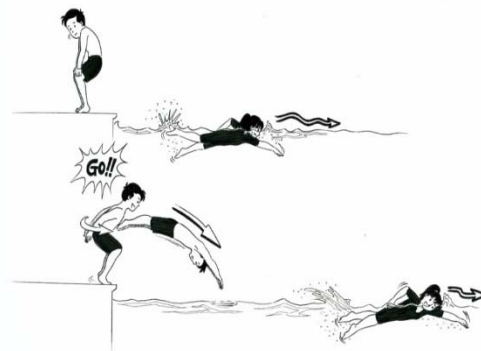


- Purpose: To train and eye-opening dive in the water.
- Level: Beginner
- Equipment: One heavy buckets with coins
- Water depth: Shallow.
- Number of Participants: Small groups of up to the entire class.
- Setting: A team consists of six people.

How to play:

Student teams lined up on one side of the pool. Buckets were placed in the bottom of the pool, with coins of different face on it. The students on the team are numbered one to six. On cue starts, the first students into the water, the dive as soon as possible to the bucket, looking for coins with the lowest nominal, took him to the other side of the pool and climbed to the top. The second student repeat, until the sixth students acquire the coins each. They then put it back into the bucket. The first team to finish is the winner.

Menyelam dan Mengejar



- Objective: To hone the techniques contained in diving

- competition.
- Level: Intermediate / Advanced.
- Equipment: None.
- Water depth: headshot.
- Number of Participants: Small groups of up to the entire class.
- Setting: Couples across the pond.

How to play:

A pair of students were in the water on one side of the pool, and is ready to cross; others stood up, his back to the water. Teachers gave the command "start" on the students in the water to start swimming, and when they were far enough from the pool wall, the teacher gestured to the other students started to dive and chase the first student. The same process is followed by another couple and then switch roles.

5. Conclusion

Based on the research and discussion above and answer the problem formulation are then the results showed that aquatic learning in primary schools has not touched the aspects of safety in the water. Thus made draft safety activities in the water and has arranged a number of 28 types of maintenance water safety. Water safety contains among other things: the name of activity, image, goals, equipment used, the depth of the water, place settings, number of participants, the potential of developed water safety purposes intended.

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THE STUDENT TEACHER PEDAGOGICAL CREATIVITY

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Abstract

The teacher should have pedagogical creativity at the time of teaching and learning activities. Currently, the pedagogical creativity of the teacher students have not been studied. The purpose of this study was to describe the pedagogical creativity of student teacher's at FKIP Bengkulu University. Survey method was applied in this research, moreover it used stratified proportional random sampling and 639 samples were taken from any random major student. The variable in this research was pedagogical creativity. It was contain of speed thinking, flexibility thinking, originality thinking, and elaboration thinking. A 32 question WIN model open test were used to collect the data. The data was analyzed using item response theory partial credit model and descriptive quantitative analysis. As a result, in term pedagogical creativity, there were 90 (14.08%) of students classified as very low, 266 (41.63%%) of students classified as low, 172 (26.92%) of students classified as moderate, and 111 (17.376%) of students classified as high. The research showed the average score of pedagogical creativity was 62.04, and it was in the moderate classification.

Keywords: pedagogical creativity, survey, IRT PCM, descriptive quantitative

1. Introduction

According to Eisner, teaching allows him to participate in the world of great ideas, realize a form of immortality, and enact performance, or as Eisner describes it, "to play your own cello" Teaching provides opportunities to create and participate in forms of aesthetic experience, experience and represent a passion for learning, and finally it make a difference in students' lives [1].

Rowe state that the quality of teaching and learning provision are by far the most salient influences on students' cognitive, affective, and behavioral outcomes of schooling-regardless of their gender or backgrounds [2].

Desimon & Long found evidence that lower achieving students are initially assigned to teachers who emphasize basic instruction, and higher achieving students are assigned teachers who emphasize more advanced instruction [3].

Creative teaching is not only necessary to meet the complex educational needs of diverse student populations, but is a requirement to cultivate students' skills to function effectively in the new knowledge economy [4].

As we have seen children have amazing capabilities to learn, and the best way of promoting and motivating their knowledge is through creativity, which also means the unity of thinking and feeling thanks to which young children can explore their world, represent their

ideas, and communicate with others at their highest level. When educators fully understand how exploration, representation, and communication feed each other, they can best help children to achieve this potential [5].

The concept of creativity is very difficult to determine. Most of the leading authors in the field of creativity has been identified a range of activities deemed to be creative; including research that focuses on people who are deemed to be creative such as politicians, scientists, artists and teachers.

Creativity as a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; indentifying the difficulty; searching for solution, making guesses, or formulating hypotheses about the deficiencies, testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results [6].

The observation of teachers in creative action provides evidence of personality characteristics similar to those of the creative giants: curiosity, originality, independence, risk taking, energetic, sense of humor, complexity seeking, artistic, open minded, privacy seeking, intuitive. Creative teachers help students to discover, and reconstruct by rediscovery making them capable of production and creativity and not simply repetition [7].

The literature on teacher behaviors that influence the development of creative abilities in children was reviewed. A historical overview of the concept of creativity within an educational context served to highlight the importance of the role of the teacher in providing the type of classroom environment that is conducive to creative learning. Teachers who show a humanistic philosophical orientation, have developed their own creative competencies, and implement specific creative methods and techniques in their classroom are more effective in enhancing students' creative abilities than teachers who follow more traditional instructional approaches [8].

Creativity is understood as universal and holistic aspect of human in creative education, and the spheres of creativity can be classified into physical-physiological sphere, social sphere, rational sphere, moral sphere, artistic sphere, and religious sphere in human life and the properties of value ability in each sphere are presented [9].

Creativity is the process of feeling and observing the problem, making guesses about the short comings of this problem, assess, and test the conjecture or hypothesis, then change and test it again, and finally preparing the results. Aspects of product creativity emphasize that what comes out of the process of creativity is something new, original [6]. The characteristic of creativity is a new product/thinking. A new products in/thinking of this case can be either develop mentor completely different from existing products. A new product/thinking in the development process is required divergent thinking [10, 11]. The thought of people came up with a fairly new idea or with a number of alternative ideas, and then he said to the creative. [12]. The characteristics of creative was associated with the ability to think creatively are fluency, flexibility, originality [13, 14], and one expert added elaboration into the creativity concept [15].

Creative teachers will be most successfully when they use their personal intelligences to choose projects that fit both their own values and their student needs and interests [16].

Teacher's experiences of finding themselves caught in the middle between valuing creativity and helping students conform to the constraints of the classroom are considered. Next, the role that constraints play in creativity is discussed. Finally, a new way of thinking about creative expression, called ideational code-switching, is proposed. Ideational code-switching represents the ability to move between intrapersonal creative interpretations and interpersonal creative expression [17].

Teacher was aware that seven students were bullied, all of whom told their teacher about at least one bullying incident. Of these seven children, teacher had worked with five students prior to the interviews in variety of combinations to stop the bullying e.g. victim, parents, and peers [18].

Globalization is not simply the name for a new epoch in the history of capital or in the biography of the nation state. He cited that it - globalization involves how people connect with day to day life and function effectively together in communities and in groups across social and national boundaries. It, therefore, can be presumed that various facets of globalization may affect creativity in different societies [19].

Increasing student engagement is serious business. Paradoxically, bringing some lightheartedness to the process tends to make us more effective. As we ponder and explore various methods to connect with and to engage our students, humor, music, and movement appear to be three valuable methods[20].

Craft argues it could be argued that teaching creatively, teaching for creativity and fostering creative learning all involve a high level of pedagogical sensitivity and skillfulness in being alert to the meld of the environment, learner engagement and experience, moment, domain and so on, as well as adopting appropriate strategies to support creative learner environment. To be able to do this implies a high level of professional artistry, whatever the context[21].

A creative teaching sequence is unified set of lessons and activities which seeks to develop the problem solving powers and proclivities of students [22].

Cropley listed nine conditions necessary for teachers to foster student creativity as follows [23]. *Independence*: Encouraging students to learn independently; *Integration*: Having a co-operative, socially integrative style of teaching; *Motivation*: Motivating students to master factual knowledge, so that they have a solid base for divergent thinking; *Judgment*: Delaying judging students' ideas until they have been thoroughly worked out and clearly formulated; *Flexibility*: Encouraging flexible thinking; *Evaluation*: Promoting self-evaluation in students; *Question*: Taking students' suggestions and questions seriously; *Opportunities*: Offering students opportunities to work with a wide variety of materials and under many different conditions; and *Frustration*: Helping students to learn to cope with frustration and failure, so that they have the courage to try the new and unusual.

From theory description above, pedagogical creativity is the method or a way of improving teaching, learning, and education in the school. The creativity pedagogy is various ways incorporation effort has been done before, or find a new way so that it becomes a relatively new way to improve students' learning passion. In this research the creativity pedagogy consists of four aspect, that are the speed of thought, flexibility of thought, originality of thought, and the elaboration of thinking about learning and education.

The pedagogical creative teacher is very important to develop children potential i.e. character, ability, academic achievement, emotional intelligence, etc. The development of children's creativity is expected to help children become self-sufficient in the face of life's challenges. The importance of teachers' creativity in education has become a reason to study the creativity of prospective teachers. The problem of this research is how the creativity of student teachers. How many people classified as high creativity.

2. Method

This research included survey method. The population of this research was student teachers at FKIP Bengkulu University. The student teachers were 2250 in 2015/2016 academic year. The sample was selected using proportional random sampling, and was obtained 639 persons, they were representative the population.

The variable in this research was pedagogical creativity. That was consist of four dimensions, they were thinking speed, thinking flexibility, thinking originality, and thinking elaboration

The data was collected by using WIN test model that has been developed by Wasidi [24]. WIN is one method to reveal the respondent's ability in solving problems if presented one example of alternative solutions.

The number of each factor about pedagogical creativity as much as 8 items, so that the total number of items as many as 32 items. The test have content validity, construct validity and reliability coefficient of 0.97. The examinee answered each a question maximum 3 alternative solutions.

The raw score data was processed into standard score using item response theory, that was Partial Credit Model. The data has been standardized using MULTLOG software [25].

The standardized data has been categorized into 4 categories. The very low categories was under $M-0.75SD$, the low categories was

average until to $M-0.75SD$, the moderate categories was range average to $M+0.75SD$, and the high categories was above $M+0.75SD$ [26].

3. Results

The result of measuring pedagogical creativity has obtained interval score from 13 up to 96, the average was 29.17, the standard deviation was 18.3. The result of this research was obtained pedagogical creativity score that were converted to standardized score. The score standardized has interval score from 4.78 up to 113.6, the average was 62.05, the mode was 60.50, and the median was 60.31. The deviation standard was 21.04. The distribution of pedagogical creativity can be displayed in the Table 1.

The data was classified to 11 interval scores. The distribution of pedagogical creativity score can be displayed into the following table.

Table 1. The Distribution of Pedagogical Creativity

No	Class Interval			f
1	5	-	15	6
2	16	-	25	16
3	26	-	35	41
4	36	-	45	74
5	46	-	55	118
6	56	-	65	134
7	66	-	75	85
8	76	-	85	66
9	86	-	95	44
10	96	-	105	42
11	106	-	115	13

Table 2. The Classification

No	Categories	f	Per cent
1	Very low	90	14.08
2	Low	266	41.63
3	Moderate	172	26.92
4	High	111	17.37
Total		639	100.00

The speed thinking dimension has interval score from 4 to 24, the average was 18.56, and the deviation standard was 4.63. The flexibility thinking has interval score from 0 to 24, the average was 14.73 and the standard deviation was 5.86. The originality thinking has interval score from 0 to 24, the average score was 12.80 and the standard deviation was 5.35. The elaboration thinking has interval score from 0 to 24, the average score was 13.70 and the standard deviation was 6.48.

Over all the pedagogical creativity has interval score from 13 to 96. The average score

59.18, the standard deviation was 18.32. The mode was 55.91, and the median was 57.89. The distribution has right skewness and it has 17.37% of good pedagogical creativity.

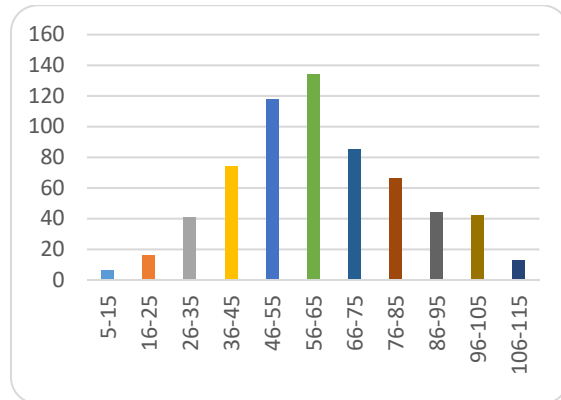


Figure 1. The Distribution of Pedagogical Creativity

4. Discussion

The Creativity pedagogy consists of the speed of thinking, flexibility of thinking, authenticity of thinking, and expansion of thinking. Each has an average of 18.56, 14.73, 12.80, and 13.07. From this average it is clear that the highest average score is the dimension of thinking speed. When viewed from the items of the question, the problems asked around the problem of daily students, such as lazy learning, less interesting learning, student delinquency, student discipline. The Questions related to these matters, the student quickly answered them. This is because students often experience the problem.

The flexibility thinking has an average score of 14.73 lower than the speed of thinking. This flexibility of thinking, students are given questions relating to other ways than usual in finding a solution a problem. The flexibility of thinking experienced a decrease in the score, this can be due to decreased brain resistance in answering the previous questions.

The average elaboration of thinking is almost equal to the average of originality thinking. Judging from the point of the question, elaboration is an extension of the authenticity of thinking, so it is natural that the average is almost the same as the authenticity of thinking.

The fact that the creativity of prospective teachers is largely low. Why does this happen? How is education at high school level so far? Much of the current educational implementation is concentrated on accessing information and

using that information to solve problems that can be anticipated as a result rather than to know [27].

The ability of students to find new problem solving lacks the attention of teachers. Teachers teach how to find solutions to students, where the answer is known before. Learning is still tending to existing learning and standard, so that the development of creativity of students less attention.

The Lessons that support the development of new student creativity begin in 2013 known as the new curriculum. The curriculum facilitates learning by scientific approach. But until now not all schools implement the curriculum.

This study was conducted on the students of 2014/2015 where they at high school still have not known scientific learning. Thus their ability to find a relatively new problem solving is very low.

The creativity is often used to develop special activities, such as art, and this is not in the syllabus. In general, university lecturers in conducting conventional learning evaluation, using multiple choice test, and description.

The teachers or lecturers rarely evaluate the learning based on projects designed by students, so that creativity in universities, especially in educational institutions have not been developed optimally.

Education in Indonesia is different from education in developed countries. Education in developed countries has taught creativity education early on. The Creative research was very prominent during the years 1990 to 2007. The Creative teaching in primary schools has been done by many experts [28]. Now, the creativity education has been implemented in high school, the creativity material into all courses [29]

Today, the condition of education learning is still oriented to teacher, it is not base on students. This condition is like the results of research conducted by Yamamoto which mentions that many students watch and accept rather than as learning actors [30]. This is what causes the creativity of students are still far from what is expected.

Conventional teaching or traditional teaching refers to a teaching method involving instructors and the students interacting in a face-to-face manner in the classroom. These instructors initiate discussions in the classroom, and focus exclusively on knowing content in textbooks and notes. Students receive the information passively and reiterate the information memorized in the exam [31].

The traditional conventional teaching methods are teacher centered and include the use

of lectures and discussions while the problem solving element is presented by and/or discussed with the instructor; the syllabus, the teaching materials and the student assessment was determined by the tutor and transmitted to students in various lectures [32].

Jeffrey & Craft found that creative instructors are innovative: goes beyond the traditional border through a new combination whether planned or in connection to any benefit; have ownership of the knowledge that is to modify or customize the curriculum to address the special needs of students and/or educational goals; control the teaching processes involved or have the need for choice and the power to make it happen through practical involvement; and operates in various social values that are acceptable and at the same time adapted to the culture of the students [28].

This kind of learning is still happening in schools up to universities in Indonesia. Traditional learning is the cause of the lack of student creativity. Suggestions to improve the creativity of students in learning is using creative learning model.

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THE STUDENTS PHYSICAL FITNESS IN KEPULAUAN BANGKA BELITUNG

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Abstract

This research is aimed to provide an overview of students physical fitness in Kepulauan Bangka Belitung. This research roadmap consists of several stages, namely the mapping profile, curriculum development, and experimental implementation of the curriculum. In the end, this study aimed to realize that education can produce a superior human resources. Not only excellent in cognitive and affective outcomes, but also physical health outcomes. This research is at the stage profile mapping of the student physical fitness. This research used methods of field research with documents technique in data collection. The document contains the measurement results of students physical fitness by measuring speed (60 meter sprint test), leg power (vertical jump test), abdominal strength and endurance (sit up test), arm strength and endurance (push up test), and cardiorespiratory endurance (1000 and 1200 run test). The data analysis was used descriptive statistics. The results show that in general (63%) students who are learned in high school graduates or equivalent is in 'middle category'. 109 people were included as participants, 82 are male and 27 are female. The participant physical fitness rating by gender showed most of the boy participant in the average rating. The same result is show by the girl participant. The results of the study show greater physical fitness in boys then girls. The conditions of physical fitness is good enough for learners in performing daily activities, for learning in school and still be able to enjoyed their free time. Developed the Indonesian fully human is a national education goals. Based on this condition are advised to stakeholders on the education to be able to improve these conditions better then nowadays.

Keywords: Physical fitness, students, national education goals

1. Introduction

Obesity, poor physical fitness of children and their causal dependency are associated with many preventable diseases and present a serious current and future public health problem.(1) Physical fitness is nowadays considered as a powerful marker of health and quality of life in childhood. (2) Children's health and well-being is highly correlated with their physical fitness.(3) Unfortunately, the importance of physical fitness tests as significant diagnostic information about the health status of children is commonly ignored.(2) Physical fitness should be considered as a useful health marker already in childhood and adolescence, reinforcing the need to include physical fitness testing in health monitoring systems.(4)

Schools are the most suitable settings to identify children with poor levels of physical fitness and to promote healthy behaviours.(2) The school is considered an excellent place to provide students with the opportunity of daily physical activity, teach the importance of regular physical activity to health, and build the skills

that support active lifestyles.(5) Nevertheless, it is still not a priority concern of the Indonesian education stakeholders. These reference values constitute undoubtedly an important tool in the educational setting.(2) The Information of physical fitness level allows physical education (PE) teachers to detect students with health problems early and provide improvement interventions against these conditions.

This study provides empirical information of the student physical fitness level. This research will be able to provide an overview of national education goals in developing the Indonesian people and to realize a superior human resources. This study generally trying to answer the question: How does the physical fitness of students in Kepulauan Bangka Belitung Province?

Physical fitness is the body's ability to function efficiently and effectively.(6) The ability to meet the ordinary as well as the unusual demands of daily life safely and effectively without being overly fatigued and still have energy left for leisure and recreational activities.(7) Physical fitness as the ability to

carry out daily tasks with vigor and alertness, without undue fatigue, and with ample energy for leisure-time pursuits, and to meet unforeseen emergencies.(5)

Physical fitness is also mean a person's ability to perform a particular job quite well, without causing fatigue.(8) Physical fitness is generally achieved through exercise and is considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases, and to meet emergency situations.(9) Physical fitness is generally obtained through physical activity or exercise and consider a measure of the ability of the body to function efficiently and effectively in training and leisure activities, to be healthy, to prevent excessive fatigue, and for dealing with emergencies.

Physical fitness referred to in this study was the student's physical fitness both in carrying out their daily activities for learning and the development of physical fitness which has been obtained by student's through the national education system. The Student's physical fitness is the student's ability and the body's ability adapt to the physical loading is given to him to learn in school activities without causing excessive fatigue, which means that students still have enough passion and energy to enjoy leisure time.(10)

Physical activity has enhanced well-being and increasing physical functioning also in people with poor health.(11) Physical exercise is one of the main determinants.(4) In other words, their work more productive if increasing physical freshness. Dengan kata lain, hasil kerjanya kian produktif jika kesegaran jasmaninya kian meningkat.

Physical fitness is classified into several sections. Hoeger classified physical fitness into health-related, skill-related, and physiological fitness.(7) Physical fitness comprises two related concepts: general fitness (a state of health and well-being) and specific fitness (a task-oriented definition based on the ability to perform specific aspects of sports or occupations).(9) Physical fitness is classified into the health-related components and the skill-related components.(6) Each physical fitness consists of several components. The components of health-related physical fitness are: body composition; cardiovascular fitness; flexibility; muscular endurance; and strength, and the components of skill-related physical fitness are: agility; balance; coordination; power; reaction time; and speed.(6)

2. Method

This study used quantitative approach. This research is aimed to provide an overview of students physical fitness in Kepulauan Bangka Belitung. Participants was the students of senior high school in Kepulauan Bangka Belitung Province. 109 people were included as participants, 82 people are male and 27 people are female. Participants selection is based the research objectives, namely to provide empirical information of the students physical fitness. Participants are on average 18 years old.

The data collection was used documents technique. The document contains the measurement results information of students physical fitness by measuring speed (60 meter sprint test), leg power (vertical jump test), abdominal strength and endurance (sit up test), arm strength and endurance (push up test), and cardiorespiratory endurance (1000 and 1200 run test). Physical fitness was assessed by measuring aerobic fitness, flexibility, muscular endurance, and muscular strength.(12) Physical fitness was assessed by measuring balance, speed, agility, power, abdominal muscular strength and endurance, and cardiorespiratory endurance.(2) The components of physical fitness that was measure is *aerobic fitness*, flexibility, muscular endurance, and muscular strength.(13) Physical fitness of this study participants was assessed by measuring speed (60 meter sprint test), leg power (vertical jump test), abdominal strength and endurance (sit up test), arm strength and endurance (push up test), and cardiorespiratory endurance (1000 and 1200 run test). The data collected comes from the study program, the student department, and the new admissions committee of STKIP Muhamamdiyah Bangka Belitung by 2015. The data analysis was used descriptive statistics.

3. Results

The descriptive statistics of participant characteristics by age for 17, 18, 19, 20, and 21 years old (boys and girls) presented in table 1. There is no significant differences were observed between boys and girls mean and mode. The boys average age is 18,4 years old and the most age of boys is 18 years old. The girls average age is 18,3 years old and the most age of girls is 18 years old.

Table 1. Characteristics of the Participants by Age for All, Boys, and Girls.

	All		Boys		Girls	
	n	Value	n	Value	n	Value
Mean	109	18.4	82	18.4	27	18.3
Median	109	18	82	18	27	18
Mode	109	18	82	18	27	18
Standard Deviation	109	1.15	82	1.17	27	1.10
Variance	109	1.33	82	1.38	27	1.20

The results of measured participants speed, leg power, abdominal strength and endurance, arm strength and endurance, and cardiorespiratory endurance by age 16-19 years old presented in table 2 and 3. The table show that only two of physical fitness component above average rating. The component is abdominal strength and endurance (good rating) and arm strength and endurance (excellent rating).

Table 2. Participant Quantity and Percentile in Item Test Rating.

Score	Rating	Participant Quantity and Percentile									
		S		LP		AbSE		ArSE		CE	
		Q	P	Q	P	Q	P	Q	P	Q	P
5	Excellent	0	0	1	0,9	30	27,5	68	62,4	0	0
4	Good	26	23,9	15	13,8	53	48,6	24	22	2	1,8
3	Average	54	49,5	57	52,3	24	22	14	12,8	24	22
2	Fair	21	19,3	31	28,4	2	1,8	0	0	61	56
1	Poor	8	7,3	5	4,6	0	0	3	2,8	22	20,2
Σ		109	100	109	100	109	100	109	100	109	100

Notes. S = Speed (60 meter sprint test); LP = Leg Power (vertical jump test); AbSE = Abdominal Strength and Endurance (sit up test); ArSE = Arm Strength and Endurance (push up test); CE = Cardiorespiratory Endurance (1000 and 1200 run test); Q = Quantity/ Frequencies; P = Percentile (%).

Table 3. Descriptive Statistics Differences of Participants Physical fitness Test Score.

Physical Fitness Item Test	All (n=109)					Boys (n=82)					Girls (n=27)				
	M	Md	Mo	SD	V	M	Md	Mo	SD	V	M	Md	Mo	SD	V
60 meter sprint test	3	3	3	0.85	0.72	3	3	3	0.76	0.58	2	2	2	0.82	0.68
vertical jump test	3	3	3	0.77	0.60	3	3	3	0.71	0.50	3	3	3	0.95	0.91
sit up test	4	4	4	0.76	0.57	4	4	4	0.70	0.49	4	4	5	0.92	0.85
push up test	4	5	5	1.01	1.01	4	5	5	0.97	0.93	4	5	5	1.13	1.28
1000 and 1200 run test	2	2	2	0.70	0.50	4	5	5	0.97	0.93	2	2	2	0.78	0.62

Notes. M = Mean; Md = Median; Mo = Mode; SD = Standard Deviation; V = Variance.

The results of participant physical fitness (all and by gender) for age 16-19 years old could be seen in table 4 and 5. The table show most of the participant in average rating. 69 participant or 63% of participant in the average rating. Most of the boy participant in the average rating. The same result is show by the girl participant.

Table 4. Participant Quantity and Percentile in Physical Fitness Rating

Score	Rating	All (n=109)		Boys (n=82)		Girls (n=27)	
		Q	P	Q	P	Q	P
22 – 25	Excellent	0	0	0	0	0	0
18 – 21	Good	13	12	24	29,27	7	25,93
14 – 17	Average	69	63	49	59,76	12	44,44
10 – 13	Fair	25	23	8	9,76	7	25,93

Score	Rating	All (n=109)		Boys (n=82)		Girls (n=27)	
		Q	P	Q	P	Q	P
5 – 9	Poor	2	2	1	1,22	1	3,70
Σ		109	100	82	100	27	100

Notes. Q = Quantity/ Frequencies; P = Percentile (%).

Table 5. Descriptive Statistics Differences of Participants Physical fitness

	All		Boys		Girls	
	n	Value	n	Value	N	Value
Mean	109	16	82	16	27	15
Median	109	16	82	17	27	15
Mode	109	17	82	17	27	15
Standard Deviation	109	2.52	82	2.22	27	3.15
Variance	109	6.33	82	4.93	27	9.89

4. Discussion

The correct interpretation of physical fitness levels requires comparing the scores obtained in a particular child with reference values of population of the same gender and age.(2) In this context, the study provides percentile values of the participant physical fitness, the each componenets and also by gender.

The finding of this study was that student physical fitness in average range, it's showed in table 4. The same result was reported in Simbolon study, that student in accelerated and regular classes in average range.(10) Anas was reported, most of 297 students in average range.(14) Speed, leg power, abdominal strength and endurance, arm strength and endurance, and cardiorespiratory endurance ranged in to five clasification that is excellent, good, average, fair, and poor.(8) Physical fitness category is excellent, good, average, fair, and poor.(14) Hanifah was reported only 9,6% of the participants were in the acceptable range, 47,1% were marginally acceptable and 43,3% were in the unacceptable fitness level.(15)

Our result also showed by the components of physical fitness that only two component were more than average. Abdominal strength and endurance in good range and arm strength and endurance in excellent range. And the other in average and fair range. The result showed in Table 3.

The results of the study also showed greater physical fitness in boys then girls. The comparison of it's showed in table 5. The same results also found in Dobosz study, the physical fitness levels in boys is better than girls.(2) The

study by Etayo found the same result, boys performance is better than girls in speed, upper and lower body strength, and cardiorespiratory fitness.(16). Garber study result found the boys better in cardiorespiratory fitness, musculoskeletal fitness, and body mass index than girls.(17) Hanifah reported the boys were fitter than girls.(15) Ramos study reported boys better than girls in cardiorespiratory fitness, lower and upper body strength, and speed/agility. Boys were physically more active than girls, and they had higher cardiorespiratory fitness than girls.(18) Muthuri review found higher levels of physical activity in boys than girls.(19) It is can be the reason that boys physical fitness better than girls.

This condition can be better through school role. Schools have an important role in the development of students. Through curriculum development and intervention of stakeholders, the physical fitness development can achieve the goal. Schools are hence appropriate settings for health promotion programs.(20) Ortega in Dobosz state that school is the most appropriate place to identify the physical fitness level of students and to educate the behavior of healthy living.(2) In addition, the effect of the intervention varied with important school characteristics, i.e. size, type, class schedule, gender composition, an space for physical activity.(20) Better effectiveness could be achieved by: introducing more health-oriented contents in physical education lessons in programme; inclusion of more cooperative, fitness and goal-oriented activi-ties in physical education lessons; providing sports equipment during recess periods and extracurricular schoolwork; parental involvement and support through homework assign-ments and through supervision.(21)

Based on the needs of the students, this condition can be tolerated. The students need endurance to continue and maintain their concentration in learning activities at school. This condition still requires the attention of relevant parties in the education of learners can be increased in a better classification again. So that education can produce a superior human resources. Not only excellent in cognitive and affective outcomes, but also physical health outcomes.

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GREEN HISTORY ON HISTORICAL LEARNING FOR THE NEXT GENERATION OF PEASANT

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Abstract

As an agricultural country, the sustainability of farming in Indonesia is under threat because of stagnant generation of peasant. In the Agricultural Census 2013 by Statistics Indonesia (Badan Pusat Statistik/BPS), the number of peasant households dropped by 5 million within a period of 10 years (2003-2013). From the existing peasant, 60.8 percent aged over 45 years and only 12.2 percent is under 35 years old. If there is no serious attention of all parties to do the next generation of peasant, Indonesia will be difficult to achieve food sovereignty. Education plays an important role to enthuse the young generation to the agricultural sector, especially for schools that are in an agricultural region. The problem of crisis of generations of peasant could be lifted in the classroom on Indonesian History subject. Teachers can use a green history approach that provides a new paradigm in learning the history from anthropocentrism to ecocentrism. With ecocentrism paradigm, students are expected to understand that the human need of food is very dependent on the presence of peasant and environmental sustainability, including the availability of agricultural land. This study discusses two things: 1) Analysis of why the youth generation are not interested in agriculture and 2) How to use the green history approach in teaching history to raise the issue of food sovereignty. This research is a qualitative descriptive literature using theoretical data and documentation in the library. The results of this research indicate that the younger generation is not interested to be a peasant because the work is less prestigious and closely linked with poverty. The young generation's perception is one of them formed because the formal education curriculum, especially historical teaching material is very anthropocentric, marginalize peasant and the agricultural world. Efforts to change perceptions are one of them can be pursued by using a green history approach that provides a larger portion for the marginalized groups such as peasants.

Keywords: peasant, historical learning, green history

1. Introduction

As an agrarian country, historical learning in Indonesia has not attention to food and peasant issues. Whereas in addition to water and air, food is a basic need of every human being and every nation, whose needs continue to increase as the population increases. The high school curriculum at the upper secondary level has been too politically centric, only about elites whose impact reduces historical facts about food and peasant.

Yet the global world is facing serious food challenges. Environmental degradation from forest clearing, climate change, water scarcity, air pollution and industrialization has resulted in reduced agricultural land. Agricultural policies that unilaterally benefit the corporation, causing farmers to be marginalized and ultimately experiencing serious poverty. Finally the case of famine due to the food crisis is now a serious problem in many countries. The Global Famine Index (2012) published annually by the

International Food Policy Research Institute (IFPRI) says at least 17 countries are at an alarming level of food crisis ([voaindonesia](#), 2007). One such country is Indonesia - an irony condition as one of the largest agricultural nations in the world.

The threat of the food crisis could become more serious in the future if the regeneration of peasant is stagnant. The Central Bureau of Statistics Survey (BPS) in 2014 showed that farm households dropped 5.04 million families (16 percent) over 10 years, from 31.17 million in 2003 to 26.13 million families in 2013. Of these, 60.8% percent of peasant are over 45 years old, and 73.97% of peasant only have elementary education, and access to low technology (Mongabay, 2016). Peasant' households that experienced a decrease in the number of households who control land less than one hectare.

Result of National Socio-Economic Survey/SUSENAS 2008 shows that 51,7% or majority of Indonesia resident still live in rural

area. However, the opposite is true in the population categorized as youth (aged 16-30 years). More than half of the youth (51.90 percent) prefer to live in urban areas (Kemenpora, 2009). From the statistical data shows, the youth expected by the next generation of peasant, now no longer interested into the agricultural world. They leave the village and choose to live in urban areas that are considered to have a better future.

There are many factors that cause youth not interested in pursue the agricultural sector. The result of research by Indonesian Institute of Sciences (LIPI) said, modernization has influenced the mobility of youth from village to town which caused them to leave small scale farm that handed down from their parents. Schools as formal educational institutions play a role in shaping the options for youth. This includes constructing students' perceptions of peasant and the agricultural sector. In other words, the school has alienated the youth to the environment in which it lives (Humas LIPI, 2015). Without the young generation who continue the tradition of agriculture, then Indonesia will be difficult to achieve food sovereignty.

Learning history at high school level actually has a big role to grow the identity of youth as an agrarian nation. This is showed in point 5 of Permendiknas 22/2006 that historical material is useful to instill and develop a responsibility attitude in maintaining the balance and environmental sustainability (Agung S, 2012). Unfortunately, the important contribution of the agricultural sector has not gained substantial proportion in the learning of history. Yet before Indonesia became an industrial country as it is today, the life of all its people is to become a farmer.

Historical teaching materials in schools today still rely on textbooks, as an important part of the government-made curriculum. Whereas what is contained in textbooks in schools is full of stories about war and power struggles, human actions that are full of violence and cruelty, heroism or betrayal (Kartodirjo, 1976:66). Conventional history-centered politics, over a century or so, is regarded as the highest form of historical thought, and even history is also defined as past politics. Although in its development, there is a trend of social and economic history research, but not yet accommodated in the history curriculum.

In order for learning history can raise the issue of food sovereignty, then can use the approach of green history. According to Supriatna (2016: 106), the approach of green

history, describes historical data about changes in the course of human history from time to time in developing its life and its impact on the environment. Therefore, this research will discuss two things: 1) Analysis of why the youths are not interested in agriculture and 2) How to use the green history approach in teaching history to raise the issue of food sovereignty.

2. Method

This research is a qualitative descriptive with using data collection techniques through interviews and literature studies. Interviews were conducted on students and history teachers at SMA Negeri 1 Rogojampi, Kabupaten Banyuwangi, Jawa Timur as a case study in November 2016. The objective was to find out the reasons for their disinterest to be peasant and to know the historical learning model that was implemented. Interview data is used as a material analysis and literature study used to conceptualize history learning with the approach of green history to answer the issues raised in this research.

3. Result

a. Perception and Interest of Youth to Become Peasant

The low group of youth (aged 16-30 years) in the agricultural sector is not a new phenomenon. It's been a long time since we've been faced with this situation and it's always on the rise. Traditionally, rural youth will continue the farming traditions from their parents as a result of social reproduction that has been going on for generations from their ancestors. But modernization in Indonesia, including education institutions that have expanded into rural areas since the 1970s, has changed the perception and interest of youth towards agriculture.

Perception according to De Vito (1997) is a conscious process in a person will be objects, events, and others through the sense of sight, smell, touch and hearing. Perception is an active process, not a passive, formed from the outside world, experience, desire, need, love and hatred. As an individual the perception of youth is influenced by internal factors such as age, education level, and gender. While external factors concerning factors that are outside the individual such as land, technology and socialization. The perception of an individual can affect interest, motivation, and attitude.

From the interview results there are two main reasons why youth are not interested in plunging into the agricultural sector. First, bad

image of farmers. The youth rate the farmers attached to the work of exhausting, rough, and dirty. They prefer to work in non-agricultural sectors such as doctors, civil servants, or industrial workers who are considered more prestigious. Negative image attached to farmers as Shrestha (2001) in Basnet (2015) not only occurs in Indonesia. Most in developing countries, the peasants and villagers are always considered to be in the lower classes and are defined as uneducated and uncivilized societies. The second reason, peasant life is identical with poverty. The youth consider that agricultural products are not sufficient for life. The risk of failing in agriculture is greater than working in other sectors due to uncertain weather and pest attacks that can cause the risk of crop failure.

The youth's perception of a peasant is made up of many things. As a young man living in a farming family, they see and feel how farmers live even though they are not directly involved in the production process. Some respondents said that their own parents who asked them not to be farmers, and encouraged to work to other sectors that are considered better. In schools, the younger generation also did not receive the subject matter which contained answers to issues concerning their identity as peasant children. The perception of the young generation reflects the social situation that befell the Indonesian peasants. Peasant' living standards, especially in the food agriculture sector, are lower than non-agricultural sectors. Most farmers in Indonesia are small farmers and some of them are also considered poor farmers because of their very small and landless incomes (Amir, Mulawarman, Kamayanti, Irianto, 2014: 3).

The People's Coalition for Food Sovereignty/KRKP (2015: 13) notes, by 2014 the level of agricultural income / capita in the broad and narrow sense is about Rp 9,032 / capita / day and Rp 7,966 / capita / day. Whereas based on the World Bank, included in the category of poor if income less than US \$ 2 / capita / day, with exchange rate US \$ to rupiah in 2014 which has passed Rp 10.000 / 1US \$. Using this measure is known, the income of peasant as per capita income is the lowest, and less than half of the average of all sectors.

These low income farm families then choose to work in the non-agricultural sector or move to the city in search of better livelihoods. The imbalance of development between rural and urban areas became the factor of urban withdrawal leaving his village. Indonesia's rapid modernization since the 1970s has led to a shift from traditional agrarian society to modern industrial society. Due to industrialization, social

structures and public trust changed drastically and encouraged urbanization (Ibrahim, Abbassi, Adnan, 2011).

Poverty in farmers is due to various factors. First, low access to land. They do not have enough capital to buy land that costs soared. Another case, farmers lost their land affected by industrialization projects, mining extraction or plantation opening. The second factor is because of the high cost of production. When farming, farmers have to bear a large cost to buy seeds, fertilizers, and chemical pesticides produced by corporations. Third, after harvest, farmers are powerless in the market system because of low bargaining position to determine their own price. Not infrequently, farmers must bear kerugian because pascapanen prices are lower than the production costs they have to spend.

These unfavorable conditions are the result of a number of government policies that marginalize farmers and agriculture. Indonesia failed to comply with the UUPA 5/1960, resulting in inequality of land controlled by the state, private and farmers. The land holding land of 74% of the land in Indonesia is mostly for large corporations such as mining activities, large-scale private plantations, the establishment of new cities and tourism, and the development of large-scale industrial estates. According to Rachman and Savitri (2015), the faucet of natural resource liberalization was very clear when Soeharto's New Order came to power in 1967. This liberalization has robbed people's sovereignty over land, especially peasants, for the second time after the colonial government made similar means during the previous colonization.

Another policy that has a major impact on agriculture and the poverty of Indonesian peasant is the Green Revolution imposed at the beginning of the New Order. Green Revolution in Indonesia is a food security agenda which is also widely implemented in many countries. The concept of food security is considered ideal for preventing world hunger after World War II. The concept was then enshrined in the Universal Declaration of Human Rights 1948 and the International Covenant on Economic, Social and Cultural Rights 1966. The World Food Organization or FAO (2008) provides the definition that food security is when everyone, at all times, has physical access, Social and economic development for adequate, safe and nutritious food that meets their dietary needs and food preferences for active and healthy living.

In its development, the practice of food security got a lot of criticism as thrown by McMichael (2004) and Patel (2010b). According

to them from that definition food security makes the food only a trade problem, rather than strengthening control over the production and consumption systems. In this conception, food is a commodity that is traded rather than the right of everyone and hunger is just a matter of food distribution. Rapidly the Green Revolution was able to raise rice production, but technological change in agriculture was not without consequences for the environment and farmers. In addition to environmental degradation, this conception makes a country focus only on how to meet food and technology development to increase global food production, whose impact, food sources are controlled by corporations or the neoliberal food regime, and marginalize farmers as food producers.

The New Order government implemented the Green Revolution with an investment of approximately \$ 725 million. The funds are for the establishment of a national research station, improvement of irrigation systems, agricultural extensions, along with agrochemical subsidies, and about 40 percent allocated to pesticides (Barbier 1989 in Mariyono, 2015). The impact of the Green Revolution on the environment concerns the excessive use of fertilizers and chemical pesticides on agriculture. Ammonia produced from nitrogen fertilizer contributes to acid rain, whereas nitrate content can contaminate water in the soil and ozone depletion due to greenhouse gases (FAO, 2009).

The Green Revolution replaced local rice seeds with high yielding varieties of IR-8 rice, a result of the crossbreeding of Taiwanese rice varieties with Indonesia made by DR Te-Tzu Chang in IRRI, Philippines. Finally, the large dependence on certain rice varieties leads to the loss of biodiversity in agriculture (Mariyono, 2015). In the early period, the average rice production in Asia did increase. However, environmental degradation and the high cost of fertilizer eventually reduced the rate of rice production growth rapidly over a 10-year period, from 3 percent in the 1970s falling to 2.2 percent in the 1980s (Notohadiprawiro, 1993). This condition causes Indonesia has not moved as one of the largest rice importing countries in the world until now (katadata.co.id, 2016).

So far, many peasants have emerged from the peasant group over the suffering and poverty that hit them. Including lawsuits against food security practices that are considered impoverish farmers. The wave of lawsuits came from La Via Campesina, an organization that represents small peasant communities from 56 countries formed since 1993. Via Campesina led to a counterfeit drama called food sovereignty at the World Food

Summit in Rome in 1996. The term Food sovereignty refers to the right of the people to healthy food, produced according to culture, ecology and sustainable methods. As well as the community's right to determine their own food and farming systems (Wittman, 2011).

In the eyes of food sovereignty, there are a number of points that the state must fulfill for the welfare of the peasants. That is, the control over food and agricultural policy must be at the local level. Food sovereignty emphasizes the ethical frame of control and access to food as a meeting between economic, social, cultural, political and environmental rights. The concept of food sovereignty also demands the provision of land for smallholders and peasants, protection for sustainable natural resources such as land, water and seed; And reject the dominance of multinational companies' control over agricultural policies facilitated by organizations such as WTO, World Bank and IMF (Bernstein & Bachriadi, 2014).

b. Raising the Issue of Food Sovereignty: A Green History Approach

Educational institutions play an important role in shaping the perceptions and choices a young man has for work. Including forming perceptions of peasant and the agricultural sector. During this time, the curriculum of modern education and schools contributes to the stigmatization of farmers as a lowly job. Since kindergarten implanted that someone will be successful when he became a doctor, pilot, civil servant, or office. Finally, the peasants' children no longer make farmers a proud choice of jobs, instead of being eco-friendly farmers. This condition has been criticized by Freire (2007), that the educational practice that departs from the positivistic philosophy of modernism products has made the students not only deprived of their cultural roots but also The natural environment they are in.

Attempts to change the perception of young people about farmers one of which can be applied in learning history. Why? Because the story of the history of the oppression of a rural faction in Asian, African and Latin American countries is not a new story, especially for those who research, write, read and teach history. The theme of oppression and resistance has filled the rural faces that stretch from the era of Dutch colonialism to the present (Fauzi, 2008). When Indonesia's independence reached its age of more than half a century, farmers as food producers continued to suffer. Agricultural land was threatened by exploitation of nature, agriculture

is not environmentally friendly and industrialization.

Historical teachers can use the green history approach to address issues of food sovereignty that require regeneration of youth farmers. According to Supriatna (2012: 105) green history is a lawsuit against the historical paradigm that puts humans as a determinant in the course of history. Green history is the opposite of conventional history laden with political content, interests and ideology that often become a hegemonic tool to legitimize human actions including actions in the exploitation of natural resources.

Green history was born in a situation leading up to the 20th century, when the world community is paying more attention to environmental conditions, following climate change that brings about disasters including the food crisis. Environmentalists attribute this linear environmental degradation to the advancement of science and technology, industrialization, and human consumption patterns that change from traditional to modern after the Industrial Revolution era. According to Supriatna (2016: 105-106), the study of green history can be thematic in the physical history of nature, plants, all living things (animals and plants) in the ecosystem and may also contain human studies as actors of history and their impact on the social environment, Animal environment, plant environment and physical nature. The focus of this green history study, which sets it apart from conventional history, has largely elevated the role of humans as a major historical agent (anthropocentrism), loaded with political content, interests and ideologies that often serve as a hegemonic tool to legitimize human actions including actions in the exploitation of resources

Natural resources. Thus history learning with the green history approach to change the paradigm of anthropocentrism into ecocentrism that puts human beings parallel to nature.

While Wall (2004), explains, that green history can examine the green movement (green movement) that plays an important role to campaign and provide protection for the earth as Martinez-Alier said: *"Human relations with the environment have a history, and the perception of such relations is also historical"*. The purpose of green history according to Wall (2004: 3) is how the green movement and broader study of the relationship between humans and nature can invite everyone to seek solutions to environmental pollution and degradation. The environmental past may, at times, demonstrate a useful similarity to today's environmental conditions.

According to Supriatna (2012: 117), that history learning can be restored in its position as a means of learning from past humanistic values, a means of reflecting on historical actions and inspiration of historical consciousness in empathizing with fellow human beings and all living and physical beings Nature then the required deconstruction. Deconstruction can be used to dismantle the old order, ways of thinking and perspective and paradigm that is not in harmony with nature conservation. An anthropocentric point of view that puts humans as perpetrators of history must be dismantled and re-constructed into a new way of ecosentrism that is ideology in line with the paradigm of green history. Supriatna (2012: 119-122) provides five new construction alternatives to the paradigm shift given the green history in history learning, which was then developed by researchers:

No	New construction of history learning paradigm green history	Development for the issue of food sovereignty (researcher version)
1	The historical facts in the Curriculum 2013 are still taught as a foundation to provide learners' understanding, but the fact is further developed into meaningful values about the importance of learners having a caring character of the environment.	The facts of historical teaching materials are developed by raising the issue of food sovereignty. The teacher connects the food crisis with unsustainable behavior, the peasant's impartiality policy and the possibility of a worsening crisis if youth are reluctant to become peasant.
2	The contents of the 2nd Core Competencies in K13 such as Care for the Environment should be the basis for developing ecocentric historical learning materials and practiced through green history.	Historical teachers can assign assignments to learners to practice historical research methods with heuristics, criticism, interpretation and historiography on food sovereignty issues occurring in the villages where learners live. Like the shrinking of agricultural land, the difference between the past and present farm management, or the types of local rice that once grew in the village.
3	Green history paradigm can use if history strategy. Teachers can start by asking questions starting with the word "if". This can be done to develop the analytical and imaginative power of learners to a historical event and be able to reflect on the life in the present. If history	Examples of teachers ask the question: "If you as a learner live in the New Order era and you as a farmer who must use chemical fertilizers and pesticides describe the ecological actions that you will do?"

No	New construction of history learning paradigm green history	Development for the issue of food sovereignty (researcher version)
4	strategy can get closer learners with perpetrators of history in the past ecosentrim. Green history can use small narratives in the oral history of society. These narratives can be the opposite of the grand narrative about the anthropocentric actions of Western society as the developers of world civilization. The oral history of local communities occupies an important position in the development of historical learning to build a new, more eco-friendly civilization.	The teacher assigns the learner to write about the ecological-agrarian wisdom practiced by the local peasant community or indigenous peoples. Teachers can also invite farmers who successfully manage their farms in an environmentally friendly way to the classroom to share inspiration to learners.
5	The learning approach in the green history paradigm that can be used is doing history. Through the process of learning about the method of history, learners are asked to rewrite the history he studied with the concept of if history so that the event can be ecocentric	For example, learners rewrite history about cultuurstelsel in the Dutch colonial era or the Green Revolution in the New Order era

This ini an example of the development of history lesson curriculum 2013 results of the

deconstruction with a green history approach to the issue of food sovereignty:

Class	History material	Development for food sovereignty issues
X	The life of pre-literate society	Pre-literacy life that is in harmony with nature. The belief system that gives respect to nature, the existence of agrarian rituals and belief in Dewi Sri or Goddess of Fertility
X	Hindu-Buddhist kingdoms	Traces of agricultural life in ancient kingdoms between the 4th and 15th centuries AD. Examples of Tugu Inscriptions issued by King Purnawarman of Tarumanegara Kingdom (4th century to 7th century AD). It contains about 12 km of river excavation which is used as irrigation. In the Majapahit period for example, agriculture gained considerable attention as well. Dams or dawuhan are built on the orders of the Matahas to irrigate the fields and the landowners are protected in a law
XI	European colonialism and imperialism to the archipelago	The peasant resistance against colonialism such as the Banten Peasant Rebellion and the Samin farmers movement refusing to pay taxes Changes in peasant life during cultuurstelsel and the opening of private plantations
XII	The system and political and economic structure of the Old Order	Farmer life and agricultural policy during the Old Order The birth of Law No. 5 of 1960 on Agrarian Reform and its implementation
XII	The system and political and economic structure of the New Order	Impact of Foreign Investment Law and Domestic Capital Law against environmental damage and narrowing of agricultural land. Impact of the Green Revolution on agricultural ecology and the life of peasants in rural areas
XII	The system and political and economic structure of the Reformation Era	Environmental crisis and its impact on Indonesian agriculture The case of hunger and the threat of food crisis Indigenous peoples and peasant communities that retain an eco-friendly agricultural tradition

Based on an example of historical learning development with the above green history approach, it gives a larger portion of the farmers as a marginalized group. Efforts to intervene through historical learning will provide maximum results if the curriculum of history learning is made by taking into account the sustainability of human future that requires food and healthy environment. Policies for the welfare of peasant' lives are also urged to make more and more young people interested in plunging into environmentally friendly agriculture.

4. Conclusion

The low interest of youth to become farmers is caused by perceptions of peasant work that is less prestigious and inherent in poverty. The perception is one of them formed by the formal education institutions that have been affected by modernization since the 1970s, the main historical curriculum is too political and elitist, never to mention the issue of food sovereignty and marginalize the role of farmers in the Indonesian historical stage. For historical learning to be more ecocentric by raising the

issue of food sovereignty, hence history teacher can use green history approach, this approach change paradigm of conventional history and dekonstruksi anthropocentric teaching material become ecocentric. In the new paradigm, historical learning provides greater space in marginalized groups such as farmers and raises issues of food sovereignty such as food crises, poverty and stigma attached to farmers.

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DEVELOPMENT OF TWO-TIER MULTIPLE CHOICE TEST FOR MEASURING CRITICAL THINKING SKILLS IN SCIENCE

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Abstract

The components of knowledge, understanding and critical thinking are strongly interrelated components that students need to use simultaneously to approach intercultural and global problems. According to pre-survey research, elementary school teacher had difficulty in use proper assessment to measure it, especially critical thinking. This study develop an assessment design to measure critical thinking skills of elementary school student in science which use two-tier multiple choice test. This is a development research that used Borg and Gall RnD steps. The writer used quantitative and qualitative technique to analyze the data obtained. The qualitative approach was used to analyze the input from experts and teachers by Aikens' formula and the quantitative approach was used to analyze the results of product testing by ITEMAN. Conclusion of this study are as follows: (1) The procedure of the two-tier multiple choice test development follows the stages of research and development. The stages include research and information collecting, planning, develop preliminary form a product, experts judgement and content validation, preliminary field testing, main product revision, main and operation field testing, and final product revision; (2) The quality of the developed products has a valid criterion as an instrument, reliable, and proper to use in elementary school student to measure critical thinking skills.

Keywords: science, assessment, critical thinking

1. Introduction

Skills as the outcome of 21st century learning emphasizes digital-age literacy, inventive thinking, effective communication, and high productivity. In short, 21st Century Skills are more than technological literacy, instead they include proficiency in critical thinking, problem solving, communication, and team work¹.

National Science Education Standards mention that critical thinking skills is needful for doing science inquiry². OECD mention about global competence, the target of education nowadays. Global competence is a complex learning objective. Global competence is a capacity for analyze the global issue and intercultural critically from various perspective, judgement, and idea independently and classically³.

Critical thinking skills is the importance outcome of education, but it is not develop optimally yet. It is appearance in TIMSS and PISA results. The study show that Indonesian students achievement in international assessment is still below average.

In 2012, Programme International Student Assessment (PISA) as a program from OECD have examined the student ability in literacy, mathematic, science, and reading around the world, including Indonesia. PISA result show the Indonesian student science literacy getting

ranked 63 from 64 participating country with an average score 382, it is far below the average score 494⁴. While, by the TIMSS survey, Indonesian student (8th grade) achievement in science ranked 39 from 41 participating country with score 409, far below TIMSS Scale Centerpoint 500⁵.

Low quality of education, including learning outcomes achieved above caused many factor, among other the subjects characteristic, the students, and the teachers⁶. Based on Badan Akreditasi Nasional have analyzed school needs based on 8 National Standard of Education consists of Content Standard, Process Standar, Learning Outcomes Standard, Education and Educator Standard, and Evaluation Standard it was said that there are many weakness in Evaluation Standard in school⁷. This is evidenced by summative and formative assessment that teachers used in school only measure lower-order thinking skills.

Critical thinking can be empowered by giving unusual problem and uncertain such as questions or dilemmas, so the successful implementation of this capability is when students can explain, decide, show, and solve the problem in the context of knowledge and experience⁸. Students with critical thinking skills are not only developed in the learning process but must also be supported by an evaluation or test that reflects critical thinking skills because

evaluation is an integral part of classroom learning.

Evaluation can be used to measure students achievement of learning indicators conducted⁹. Evaluation instruments that measure critical thinking skills can use different types of assessment such as modified multiple-choice, short-answer, and long answers¹⁰.

One alternative modified multiple-choice that can be used to measure critical thinking skills is the two-tier multiple-choice test. The form of two-tier multiple choice was developed by Treagust¹¹. Treagust uses two-tier multiple choice to diagnose students' ability to understand concepts. The stem consists of two levels of questions, the first level is the question with alternative answers and the second level is the reason for the answer chosen on the basis of first choice.

This study aims to develop a two-tier multiple choice test instrument to measure critical thinking skills in science studies.

2. Method

This study used research and development methods¹². The stages include research and information collecting, planning, develop preliminary form a product, experts judgement and content validation, preliminary field testing, main product revision, main and operation field testing, and final product revision.

This study started in October 2016 until April 2017 in Elementary School around Purbalingga Regency. The population are 5th grade students, afterwards the subject selected by multistage random sampling. There are 40 elementary school teachers from 20 SD/MI engaged in research and information collecting, 5 headmaster, 8 validator in experts judgement, 37 students in preliminary field testing, 100 students in main field and operational field testing.

Qualitative datas obtained from expert judgements before the preliminary form of the product was tested, it was collected using expert validity instrumen grounded on Aikens formula. Quantitative datas obtain from the results of preliminary field testing, main field testing, and operational field testing. At preliminary field testing stage, researchers used questionnaire for collecting students perception about the product, whereas at main field testing and operational field testing, researchers examined the product in 5th grade students classroom and analyzed it by Iteman 3.0 to get data about reliability, difficulty index, discriminating power, and alternative statistics.

Final product obtained after operational field testing when the validity is good criteria, the reliability is more than 0.75, and the item analysis good criteria. It can be implemented in classroom assessment in elementary school, especially 5th grade students.

3. Results and Discussion

First stage of research and development methods is research and information collecting. Researchers engaged 20 elementary schools and 40 teachers as responden in this proses use questionnaire and collected the datas about classroom assessment in critical thinking skills.

Researchers analyzed the teacher perceptions about critical thinking in elementary school. There are four criteria 'very agree', 'agree', 'disagree', and 'very disagree'. The result of research and information collecting as follows:

Table 1. Teacher perceptions about critical thinking in elementary schools

No.	Teacher Perception Indicator	Score
1	Critical thinking skills need to improve in elementary schools instruction	87%
2	The importance of critical thinking has been describing in elementary school curriculum	66%
3	Critical thinking skills should be learn from 1st grade classroom	62%
4	Teachers has implemented critical thinking skills learning in classroom	67%
5	Classroom learning has improved critical thinking skills in every instruction	67%
6	Teacher has the qualification to improve critical thinking skills assessment in classroom	65%

Based on table 1, we can analyzed that most of teachers have critical thinking learning awareness. But the implementation of critical thinking learning has not implemented well yet, in classroom learning and also classroom assessment. Based on in-depth interview with 5 headmasters, researchers find that teachers has lack of reference about critical thinking skills assessment in elementary schools. They need some manual just like '*Pedomani Penulisan Butir Soal*', from Depdiknas 2008, include planning until scoring stage.

Coincide with the teacher perception-questionnaire and in-depth interview, researchers provide three example about selected response assessment. There are modified multiple-choice

test that considered to assess critical thinking skills.

Table 2. Teachers response about modified-multiple choice test that measuring critical thinking skills

Test	Have seen	Have implement
Multiple true-false	78%	28%
Two-tier multiple-choice with 2 reason	43%	8%
Two-tier multiple-choice with 4 reason	13%	0%

Based on table 2, it can be concluded that two-tier multiple choice test with 4 reason was recommended by teachers for measuring critical

thinking skills in classroom. Two-tier multiple choice test is a modified multiple-choice test as selected respons item consists of two-tier alternative. First tier is the content of questions (stem) and the alternative answer, second tier is the reason of why testee choose the first tier. Reason in second tier have as a purpose for improve thinking skills and observe student ability on giving a reason¹¹.

Researchers develop 25 items of two-tier multiple choice test and examine it by experts judgement to get validity of the test. On this stage, there are two kinds of experts judgements. First, the product was examined by experts in material experts, language experts, and instrument experts which describe the results as follow.

Table 3. Material experts judgement

No	Indicator	Persentase	Score	Category
1.	The stem appropriate with the competency indicator	77%	B	Good
2.	The question appropriate with the purpose of measurement	75%	B	Good
3.	Alternative answer is homogeny and reasonable based on material learning	83%	A	Very Good
4.	There is only one correct alternative asnwrs	85%	A	Very Good
5.	The material appropriate with elementary school students	82%	A	Very Good
Average		80%	B	Good

Table 4. Language experts judgement

No	Indicator	Persentase	Score	Category
1.	Applying for language appropriate to bahasa norm	81%	A	Very Good
2.	The language is communicative	80%	B	Good
3.	Not use local language	96%	A	Very Good
4.	Alternative option is not repeat the same words/sentence	92%	A	Very Good
Average		87,25%	A	Very Good

Table 4. Instrument experts judgement

No	Indicator	Persentase	Score	Category
1.	The stem is writed consisely and clearly	84%	A	Very Good
2.	The stem and alternative is a needful sentences	85%	A	Very Good
3.	The stem is not ambiguous and not double-negative statement	99%	A	Good
4.	The alternative answer is homogeny and logical considered by stem construction	75%	B	Good
5.	Figure, graphic, table, and chart are clear and in useful	74%	B	Good
6.	Relatively length of alternative answers is same	88%	A	Very Good
7.	Alternative answer is not using statement of "all of them is true/false"	100%	A	Very Good
8.	The question is not dependent by previous question	100%	A	Very Good
Average		88,13%	A	Very Good

Based on table 3, it can be concluded that according to experts judgement the product of two-tier multiple choice test for measuring critical thinking skills is “good” in material, “very good” in language, and “very good” in instrument construction.

The product of two-tier multiple choice test for measuring critical thinking skills also examined used content validity based on Aikens formula. The test was validated by 8 experts, they are the lecturer of Sebelas Maret University Postgraduate Program. By considering the coefficient tabel of Aiken Validity, test items was decided valid if its validity coefficient $\geq 0,75$. The results of experts judgement to the modified multiple-choice test as follows:

Table 4. Content Validiy based on Aikens Formula

Items	Coefficient Validity	Decision
1	0,67	invalid
2	0,79	valid
3	0,71	invalid
4	0,92	valid
5	0,88	valid
6	0,71	invalid
7	0,71	Invalid
8	0,92	valid
9	0,67	invalid
10	0,88	valid
11	0,83	valid
12	0,88	valid
13	0,79	valid
14	0,75	valid
15	0,88	valid
16	0,88	valid
17	0,75	valid
18	0,67	invalid
19	0,63	invalid
20	0,67	invalid
21	0,83	valid
22	0,88	valid
23	0,79	valid
24	0,92	valid
25	0,67	invalid

According to the Table 4. there are 9 items which must be improved and revised. It has to revise again until the experts decision is valid (achieve validation coefficient $\geq 0,75$). During the first content validation process, there are qualitative analysis from some experts which is used as a guidance in revising the invalid items. After revised the invalid items, the test was validated again until the coefficient validation $\geq 0,75$. It need twice experts validation to get whole valid instrument of two-tier multiple-choice test.

After the product was valid based on expert judgement and content validity, furthermore the product was examine in preliminary field by 37

students to get datas about the readable-capability of the test. The results of preliminary field testing as follow:

Table 5. The Result of Preliminary Field Testing

No	Indicator	Average score	Percentage
1	Items word and term are comprehensive	2,76	69 %
2	The sentence is easy to understand	2,70	68 %
3	The figure is clear and readable	3,76	94 %
4	The figure is appropriate with the items	3,11	78 %
5	The table is clear and readable	3,30	82 %
6	The material has been learned in the classroom	3,30	82 %
7	The material is appropriate to the 5 th grade instruction	3,41	85 %
8	The items is interest	2,95	74 %
9	The items is good and orderly	3,38	84 %
10	The items presentation is helpful	3,05	76 %

Based on the table 4., it can be concluded that the product of two-tier multiple-choice test is readable and applicable. It can be continued to the next stage, main field testing.

Main field testing was doing in 2 elementary schools and engaged 100 students in 5th grade. The test had been done in average time approximately 90 minutes. In this stage, the researchers analyzed the reliability and item analysis that consists of difficulty index, discriminating power, and alternative statistics.

There are 25 item that analyzed by Iteman 3.0 and 100 students which has done the test in this analysis. The average of students score is 11,87 with 24,00 is the maximum score and 1,00 is the minimum score. The test is reliable when every items has related with another items. A good reliability coefficient is above 0,75. Therefore, the two-tier multiple-choice test has a high reliability because the reliability from alpha formula is 0,85.

Difficulty index from the test can be analyzed based on Mean P value in Iteman 3.0 which is 0,475 on average. It is mean that the two-tier multiple-choice test is “optimum difficulty”. While, the discriminating power of two-tier multiple choice test can be analyzed based on Mean Item-Tot in Iteman 3.0. The difficulty index is 0,471. It is mean that the modified multiple-choice test has a very good items on average. Overall, it can be concluded that two-tier multiple-choice test which developed to

measure critical thinking skills has a high quality based on difficulty index and discriminating power. It is mean that, the test has optimum difficulty which is suitable for measuring students ability in analyzis and critical thinking. The test is not to easy and also no too difficul to be implemented. The test has the potentiality to differentiate students with good critical thinking skills and students with poor critical thinking skills.

Iteman 3.0 also analyzed the alternative statistics. Some item need improvement as a follow up. The items number 2, 4, 5, 7, 8, 9, 10, 14, 18, 19, 20, and 22 has a good alternative without revision which all of the answers key was selected by most testee and all of the distractor works. After revising the items and examine again in operational field testing, then it can be concluded that two-tier multiple-choice test for measuring critical thinking skills feasible applied with some improvements as a final product revision.

4. Conclusion

Elementary school teachers need some manual or example of assessment development to improve classroom assessment and describe whole student skills as a review to increase learning quality. Two-tier multiple-choice test provide the form of assessment that can measure critical thinking, also another higher-order thinking. It can be implemented in elementary schools appropriate with formative and diagnostic assessment purpose.

The procedure of the two-tier multiple choice test development follows the stages of research and development. The stages include research and information collecting, planning, develop preliminary form a product, experts judgement and content validation, preliminary field testing, main product revision, main and operation field testing, and final product revision.

The quality of the developed products has a valid criterion as an instrument. It has a high reliability because the reliability by alpha formula is 0.85. it has "optimum difficulty" which is suitable for measuring students ability in analyzis and critical thinking. The test is not to easy and also not too difficult to be implemented. The test has the potentiality to differentiate students with good critical thinking skills and students with poor critical thinking skills. The two-tier multiple-choice test for measuring critical thinking skills feasible applied with some improvements as a final product revision.

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IMPROVEMENT PROFESSIONAL LEARNING TEACHER AT WORK

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Abstract

The professionalism of teachers remains a major problem in Indonesia. This paper aims to describe the concept of learning community, and development strategy of professional teachers. Learning community is one of the strategies to improve teacher quality. Teacher is a component of education, who was instrumental in the achievement of educational goals. Improvement teacher professional can be done through teacher collaboration, and shared learning essential. This paper is a pre-research based literature studies. The results of this study concluded that the professional learning communities can improve professional teachers

Keywords: professional teachers, learning community

1. Introduction

The paradigm of developing professional teachers is ready for a long time. The complex issues of teaching are highlighted in establishing the professionalism of teachers in work. One of the practical agendas that govern teachers is to construct new classes and expectations about student outcomes and to teach them in ways, (V. Vescio., Et al, 2008, p 80). Developing teacher professionals in new innovations about what, how and when teachers teach needs the right strategy. Therefore, it is necessary to develop a Professional Learning Community model to address the challenges that teachers have.

The developed model is by supporting the existing paradigm with the Professional Learning Community. Louis & Marks (1998), states that praising the good of the learning community as an important way to organize schools to maximize the time spent in professional development. It's just that this literature is more dependent on empirical changes in teacher practice and student learning as a result of Professional Learning Community.

Improving teachers in professional learning work becomes a necessity in order to meet future needs. Teachers as one of the essential components in an educational institution play an important role. With improvements in shape and shape. As R. Dufour, (2008, p.169) heard, there should be a difference between teaching teachers in a Professional Learning Community dengan teaching in a traditional school. Furthermore, R. Dufour, (2008, p 170) states that very important to everyone operates within a built-in system of

accountability because they are expected to contribute to the continous improvement of their team and their school.

Professional Teacher

Teacher is one of the vital component in school, more over education system cannot do without teacher. Teachers must have principles to develop more professionally. King Newmann (2001), who presented principles for professional development, argue that teacher learning is most likely to occur when: 1) teacher can concentrate on instruction and student outcomes in the specific contexts in which they teach; 2) teachers have sustained opportunities to study, to experiment with and to receive helpful feedback on specific innovations; 3) teachers have opportunities to collaborate with professional peers, both within and outside of their schools, along with access to the expertise of researchers and program developers. Moore's (1998) suggestions for teacher learning opportunities, based on principles of adult learning, participation, and working collaboratively in a climate of mutual respect.

Professional Learning Community

Professional learning community may have shades of interpretation in different contexts, but there appears to be broad international consensus that it suggests a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way (Toole and Lewis, 2002).

Astuto, et al (1993) define professional community of learners as:

...in which the teachers in a school and its administrator continuously seek and share learning and act on their learning. The goal of their actions is to enhance their effectiveness as professionals for the students' benefit; thus, this arrangement may also be termed communities of continuous inquiry and improvement.

DuFour&DuFour, Eaker (2008) define the four pillars of a professional learning community:

- a. Mission: Why do we exist?
- b. Vision: What do we hope to become?
- c. Values: What commitments must we make to create the school or district that will improve our ability to fulfill our purpose?
- d. Goals: What goals will we use to monitor our progress?

Morrissey, (2000) state that a key purpose of professional learning communities is to enhance staff effectiveness as professionals, for the ultimate benefit of students. R. Balam (2005), report that research has steadily converged on claims that professional community is an important contributor to instructional improvement and school reform. Lewis et al (1995) found that in schools with a genuine sense of community there was an increased sense of work efficacy, in turn leading to increased classroom motivation and work satisfaction, and greater collective responsibility for student learning. Andrews and Louis (2004) also found that where teachers developed a professional learning community, it not only enhanced the knowledge base of the group, but also had a significant impact on their work in their classrooms.

Characteristics of Professional Learning Communities

The concept of Professional Learning Community is built on the thinking of the business sector regarding organizational capacity. This modification is suitable for the educational world. The concept of learning organization is a collaborative work culture for teachers (Thompson, Gregg, & Niska, 2004). Learning communities are grounded in two assumptions. First, knowledge is situated in the day-to-day experience of teachers and best understood through critical reflection with others who share the same experience. Second, actively engaging teacher in professional learning

communities will enhance their professional knowledge and enhance student learning, (Buysse, Sparkman, & wesley, 2003).

Many schools are interested in implementing and developing teacher learning communities. Stoll et al. (2003) suggested that professional learning communities are characterized by; 1) shared values and vision, 2) collective responsibility, 3) reflective professional inquiry, 3) collaboration, and 4) group, as well as individual, learning.

Newmann et al, (1996) describes five important characteristics of professional learning communities. First, shared values and norms must be developed with respect to the content of the group's collective "learn about the children's collectivity, and the proper roles of the parents, teachers, and administration. Second, collective responsibility, there is a broad agreement in the literature that is consistent of collective responsibility for student learning (King and Newmann, 2001, Kruse et al, 1995). The third, reflective dialogue that leads to "extensive and continuing conversations between teachers about curriculum, instruction, and student development" (Newmann et al., 1996, p 182). Four, collaboration, this concerns the involvement of staff in developmental activities, and goes beyond superficial exchange of help, support, or assistance (Louis et al., 1995). Five, group, as well as individual, learning is promoted. All teachers are learners with their colleagues. Collective learning is also evident, through collective knowledge creation, (Louis et al., 1995).

Bolam et al, (2005, p.145), synthesize these characteristics to define a professional learning community as a community with the capacity to promote and sustain the learning of all professionals in the school community with the collective purpose of enhancing student learning.

Development Strategy

Strategy to improve learning can be done with:

- a. Teacher collaboration

Teacher collaboration is important thing in increase their professional. Teacher collaboration can be done with share practice. Levin (2012) state that shared practice is important because it is more likely to be effective as each person learns from the experience of colleagues, and it helps build the sense of community and common purpose that is vital to maintaining engagement.

b. Shared learning essential

Teachers can share their learning essential to the others to discuss about his teaching. Discussion about learning essential can improve quality of their teaching. Levin (2012) state that effective learning to support better teaching and learning requires what several writers have called the “deprivatization of teaching” – moving away from teachers doing in their classrooms to practices grounded in evidence and shared across a school or district.

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2. Conclusion

The results of this study concluded that the professional learning communities can improve professional teachers

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THE EFFECTIVENESS OF TEAM BASED LEARNING METHOD IN CREATING CRITICAL, CREATIVE AND RESPONSIBLE ATTITUDES IN STUDENTS

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Abstract

This article is back grounded by the effectiveness difference in applying lecture method and Team Based Learning (TBL). This article present exploration analysis of which is better between lecture method or TBL in teaching material content related to skill development such as critical, creative and responsible attitudes in students. This study is aimed to explain the effectiveness of team based learning method. The approach used in this research was a qualitative approach with literature studies. Data collection technique in this study is literature study from various books and earlier journal articles. The study result concluded that (1) TBL contribute to create critical, creative and responsible attitudes, (2) Learning with lecture method also have certain advantage provided teacher can involve students, (3) Both TBL and lecture method give positive result to material and concept mastery, (4) TBL give opportunity to students to know the group members so it build good relationship.

Keywords: Team Based Learning/TBL, Critical Attitude, Creative Attitude, Responsible Attitude

1. Introduction

Recently social and technology had changed rapidly which effected on people life. People who initially only familiar with traditional life, now should live with the advance of technology. It means that it influence life aspects which comprise social structure, culture and innovation, and interaction pattern (Vijayaratnam, 2009). 21st century is marked by the advance of sophisticated information and communication technology. The sophistication of this advance not only give benefit for human but also bad effect (DeMotta, Chao & Kramer, 2016). The advance of ICT for example, give facilitation and quick access in receiving all information spread in the world. But on the other side, it invoke the confusion to see the truth of this information as the result of the abundance of information spread. In the broader scale, there are two categories of knowledge source, that is, true or false (hoax).

The effect of ICT development also pervade educational system in the whole world, without exception in Indonesia. This change is seen prominently in terms of technology usage, reference source, and facilities used. In relation to educational field, in learning process teacher in class not only deliver the material (transfer of knowledge), but more that that. Teacher also should capable to deliver the material as

interesting as possible, pleasant and easily understood. The evident that students understand the material is if they can relate the real world to textual learning material, then are able to observe and confirm the truth of this material (Birsyada, 2013). It means that students not only receive information from teacher but there is reciprocal relation in accessing the truth of information conveyed (Shaw, 2014). Students are given the freedom to examine and find the information they learn.

In practice, lecture method still become alternative for teacher in delivering the material. Lecture method is believed as the right method to convey information without losing its essence. Nevertheless, because learning with lecture method is one-way interaction, that is, from teacher to student, then students skills are not developed maximally. Team Based Learning (TBL) is present as alternative method from the existing conventional method. TBL is believed capable to develop students skill in this 21st century. This article aimed to explain the effectiveness of TBL on critical, creative and responsible attitudes creation.

2. Method

The approach used in this research was a qualitative approach with literature studies. This literature studies aims to explain in depth through

the study of books, journals, and the results of previous research.

3. Discussion

Is Lecture Method Effective?

So far, traditional method in learning is oriented to one way interaction between teacher and students. Teacher explain teaching material and students receive it without response at all. This is different from modern view which state that knowledge is constructivism, in which students are expected to be active in learning process and participate in discussion and collaborative activity. That activity not only make students perform well, but also encourage more participation, self confident and leadership ability (Carpenter, 2006).

Traditional method or often called as lecture method emphasize on discourse brought by teacher. It means that the delivered content depend on teacher understanding toward the content of that material. The underlying problem about learning method aroused from the question on how the best way to deliver the material in class so it can be retained by students. In the case of lecture method, Is that method effective in giving understanding and skill development in students, or vice versa? (Eynde & Spencer, 1986).

Lecture method is most widely applied method in teaching field. This method is believed as economical and practical method for teaching a big class (Behr, 2006). Lecture method in class can be found in some forms, but in general it is marked as didactic approach for teaching which relied on an expert (teacher) in transfer the knowledge to listener (students). The main advantage of this method are (1) Efficiency, because it can be implemented easily in very big class, (2) Readiness, teacher can perform optimally so it can give impression to students at that time, (3) Control over material content, information flow, and class environment (Bauerlein 2011; Jones, 2007).

However, the effectiveness of lecture method in creating skill on students is still questioned. Lecture method had been criticized because it create learning environment which is passive and not involve students. But in study conducted by Christopher M. Huggins and Janet P. Stamatel about exploration study which compare lecture method and TBL, it stated that both methods are successful in delivering the content and developing synthesis, analysis and application skill. Lecture method which is supposed not effective in developing skill, in fact can be maximal if teacher can overcome this

weakness by involving students or using video and power point.

The Effectiveness of Team Based Learning

Teacher role in delivering the lesson to students is a task and duty. The ideal is that this lesson should be delivered in enjoyable, interesting and useful way. Students not only understand the text but also understand the context and capable to relate theory to practice. It will be realized if teacher has adequate knowledge (Martin, Craft & Tillema, 2002). But in reality, there are many teachers who deliver their knowledge by only relying on textbook, whereas many lessons contain knowledge which close with surrounding environment is increasingly dynamic for time to time (Purnomo, 2013).

Many science disciplines are important in developing education in Indonesia. For example, Social Science. This is because these sciences are useful for students in order to have social intellectual. The common barrier in learning felt by students so far is learning process which is not interesting. Teacher enter the classroom, explain with lecture method, then student listen and memorize the concepts which in the end not stimulate thinking. Whereas, critical and creative thinking ability is very needed in each learning. Critical thinking ability in learning is needed as tool to analyze the reality which is increasingly complex (Mehta & Al-Mahrooqi, 2015). Students should be given opportunity to build their own knowledge in order to solve the problem related to surrounding environment (Palincsar, 1998).

Team Based Learning (TBL) not only a small group in learning, but the effort to build team collaboration which prioritize the attitude to trust each other among group members. In TBL, students work together to solve the problem given by teacher. This problem solving involve communication and discussion which means that students explain each other the idea or solution. That intensive interaction can strengthened relationship between teacher and students. That learning process can give opportunity to students to be involved in building their own knowledge. Learning process is not only one way from teacher to students which is known as lecture method, but among students who give information to each other in discussion. TBL play big role in creating students' critical and creative attitude. Because this learning process emphasize analysis, dialectic, and innovation in thinking (Stein, Colyer & Manning, 2016).

TBL is a model made in order that students are responsible through learning activity. The aim of TBL will be achieved if students can overcome difficult problem. After discussion, students make conclusion which will be explained to another team. Next, each team will evaluate their performance to arose their awareness (Stein et al, 2016). Team collaboration can be build provided there are roles and responsibility from each individual to contribute. In TBL, each group consist of 5 until 7 persons in order that learning activity can be supervised and team collaboration performance can run optimally. The intensive relation build in TBL manifest critical and creative attitude in students.

The study (Brookfield, 1987) showed that creative individual usually (1) often reject the standard technique in solving the problem. (2) has broad interest in relevant or irrelevant problem for him/her. (3) Capable to see the problem from various perspectives. (4) Tend to view the world relatively and contextually. not universally or absolutely. (5) Usually doing trial and error approach in solving the problem which give alternative, future oriented, and optimism in facing the change for progression. Whereas, critical attitude is used as tool to make decision and solve the problem wisely and to make consideration based on reason and evident.

Social Science learning which rich in concepts, is more interesting to be explained by active learning approach such as TBL which will create new perspective which stimulate students' mindset (Cheng, 2009). Students become close to social reality, more familiar with their community environment, and sensitive to problems occurred. TBL create student who is cooperative, anticipative, active and competent. However, there are weakness in TBL, that is, learning not run optimally if students not habituated in reading, many students do not attend the class because they are not ready for that, answers in discussion sometimes are the result of guessing, and students are shy to express their opinion.

Team based learning had became popular model among teaching method. One outcome expected from work in team is collective learning. As team, members are collaborated in exchanging information, which can enhance learning (Van Woerkom & Van Engen, 2009). TBL give positive influence to team skill creation. These skills can be efficiency, effectiveness (in achieving the goal), and innovation. In TBL, students are confronted with learning process to understand each other. Learning can help team to adapt with situation change, refine process and practice, and find new

way to achieve the goal of team (Van Woerkom, Croon & Woerkom, 2009).

Discussion activity in TBL influence group performance internally and externally. Internally, students capable to discuss the way to anticipate the mistake, and can discuss the assumptions which are related to certain issue. Externally, students capable to coordinate the answers to another group, and another group can give information concerning what they discuss. Interaction of these two different groups train students' communication ability, creativity, and critical attitude (Chan, Pearson & Entrekin, 2003). In addition, TBL is an effective teaching method in solving the problem (Beatty, Kelley, Metzger, Bellebaum & McAuley, 2009).

TBL is learning with teacher as facilitator who provide opportunity to students to expose their understanding and new experience in discussion so it stimulate development of new personality. TBL is focused on relevant problem and interaction among groups (Hrynychak & Batty, 2012). Before class is started, students are provided opportunity to prepare themselves for the topic discussed. This is applied in order to increase students' participation in class (Grady, 2011). Following is the process of TBL (Loo, 2013):

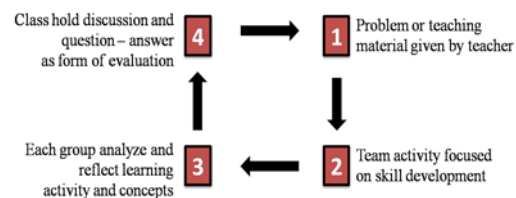


Figure: Cycles of TBL Activity in Class

In TBL, students first should learn independently before class is started. The teaching material used in TBL is not the same with case study, but more on questions direct to application from knowledge (Macke & Tapp, 2012). Teacher choose teaching material or problem which is used to be studied together in students group. In TBL, the main focus of learning activity is skill development, such as students collaboration in team to solve the problem and make collective decision (D.Parmelee, Michaelsen, Cook & Hudes, 2012). Each group is involved in analysis and reflection from the material given. Finally, as evaluation of learning, students do question-answer.

To optimize TBL, the following tips can be considered. (1) Begin with good design of teaching material. (2) Use design in developing TBL and module. (3) Arrange the module

activity as good as possible in order that students achieve learning goal. (4) Prioritize development of critical attitude, contextual and discussion. (5) Do not underestimate the importance of evaluation report. (6) Explain to the class the reason why using TBL. (7) Focus on students' accountability. (8) Use reflection in learning (D.X.Parmelee & Michaelsen, 2010). In principle, TBL is aimed to (1) Form heterogeneous team. (2) Emphasize on students' accountability. (3) Focus on task to solve the problem. (4) Give feedback to students (Sisk, 2011).

4. Conclusion

TBL contribute to create students' attitude such as communicative, creative, critical, and responsible. Nevertheless, learning with lecture method also has certain advantage. For example. some critique to passive learning can be overcome by teacher ability to involve students. For material content and concepts mastery, TBL and lecture method have similarity. Both teaching methods give positive result toward material mastery. However. when it is viewed from skill enhancement, TBL has its own advantage. In TBL, students are required to participate in solving the problem with creative and critical way/ TBL also give opportunity for students to know their group members so it build good relationship.

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THE REFLECTION SOCIAL-COGNITIVE THEORY IN MATHEMATICS EDUCATION

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Abstract

This article aims to describe the reflection of social-cognitive theory Bandura developed in mathematics. This theory became one of the important foundation in the theoretical framework and application in the field of education. This used library research method as integrative literature reviews of books and scientific articles include of concept and application of social-cognitive theory in mathematics. Data sources were critically analyzed to answer the problem formulations. The descriptive analysis showed that self-regulation, motivation, self efficacy become important variables in observational learning based on social-cognitive theory so that individuals can learn optimally. The influence of important motivations on the learning process observasional, both in the form of cognitive and motor skills, where the elements are goals, expectations of results, values, and self efficacy. Self-efficacy is the expectations of an individual's beliefs about his or her ability to learn or perform actions at a given level. Teachers become important subjects that can affect students' self-efficacy. Peer modeling is also an effective suggestion for growing and improving students' self-efficacy. Thus, this article is very important to improve the learning outcomes both of teachers and students and to encourage the development of their further career achievements.

Keywords: Social-cognitive theory, mathematics education.

1. Introduction

Educators have learned Bloom's taxonomy as a way of sorting out the learning achievements obtained by learners through the learning process. Center For Curriculum Redesign (CCR, May 2015) mentions that there are four dimensions of education, namely knowledge, skills, character, and metacognition. For this, the variables of knowledge, character, and skills become an important aspects to be possessed by learners in order to be able to hold the needs in global era with their complex problems.

The education study related to the development of science, technology, information, and art, which is about the influence of environmental factors, both social and physical environment of human life. Especially the social environment facet, as the human interaction place have become a strategic issue of each period to be studied. Humans with their interactions will always create dynamic phenomena. The connection with education and culture is clearly related to the social environment that learners and educators become part of the social environment so that the experience in social interaction is as one of the sources of knowledges.

The social cognitive theory further developed into a contributor to education world. The characteristics of individual in social

interactions become indicators of the functioning of self-regulation in community life. Bandura's cognitive-social theory became one of the important foundations in the theoretical and implementation framework of education, mathematics education, among others.

Mathematics is learned in formal and non-formal education because of its function, ie 1) as a tool for problem solving, 2) underpinning science and technology studies, and 3) evidentiary tools for modeling real situations (Chambers, 2008, p 8). As a tool to solve problems in the sense of mathematics has unique characteristics that are abstract, structured, tend to be formal so that for individuals who learn math needs to prepare the ability and special mental conditions. The critical thinking becomes a mathematically of thinking way as knowledge ability and skills of critical thinking indicators, that can be observed.

Mathematics as a language has many facets (Chambers, 2008, p.10). It contained symbols, mathematical expressions, images without meaning but attached to the unity of text and context form that integrated it. This is very important in contribution to explain science and technology. Products of science and technology development also result from using of mathematical sciences.

Given the importance of mathematics, students should appreciate it because mathematics is not a static knowledge that is just waiting to transmit knowledge into their minds. In all aspects of culture, at any time, has evolved and continues to evolve, reflecting the values and expectations of exploring the multicultural aspect (Haylock & Thangata, 2007). The mathematical functions is covering the human life's activities in the perspective of usability value. It can be said that the source of mathematical knowledges related of the individual and environment are integrated with its behavior. This corresponds to Bandura's social-cognitive theory.

The practice of mathematics learning shows some students learning difficulties as well as teachers' difficulties in transferring and transforming mathematics. The difficulties can be related to understanding, reasoning, representation, communication, problem solving in mathematics. Students' learning difficulties also relate to cognitive, preliminary knowledge, information management skills, characters, attitudes, skills, external conditions, physical, environmental, and so on. These difficulties can be assessed through social-cognitive theory. This theory has become one of the psychological foundations in the science of education for how to answer problems related to the practice of learning in the classroom and outside the classroom. Thus, the purpose of this article is 1) to describe the difficulties of mathematics learning, 2) to describe the concept of learning based on social-cognitive theory, and 3) to describe the use of learning concept based on social-cognitive theory in mathematics education.

2. Method

It was as descriptive-analytical studies using library research or scientific studies based on an integrated literature review. Author used the data sources from the literatures, both books and scientific articles from journals and proceedings. Books and scientific articles were selected based on the availability of informations that supports the answers and problem formulations, related to the mathematical problems and the study of social-cognitive theory in the conceptual and application perspective in mathematics education. The consideration in selecting the literature of the books was taken based on the degree of reliability of the author and the publishers, the level of depth of content. While the selection of journals viewed based on the quality aspects of the publisher, the appropriateness of abstract discussion methods,

contents, and the results. Data sources were critically analyzed to answer the problem formulations.

3. Results

This section will analyze the descriptive analysis of mathematical problems and the use of social-cognitive theory in mathematics education.

Difficulties learning in mathematics

Learning in mathematics indicates that there is a continual divergence in performance quality between those who succeed and those who fail which is exacerbated by qualitative differences in their thinking processes. The differences could make variety of problems, faced both students and teacher. One of the student's problem is difficulty learning.

It was experienced by all the individuals who study mathematics. It was as a common problem in cross-cultural, place and time context so teachers need to give attentions in instructional practice. The reason was that there were difficulties in learning so that it might give a direct or indirect effects to student achievement.

As stated by Cristina et al., (2000), that learners can experience difficulties at any or all of these stages and difficulty at one stage can affect the others. According to Frederickson and Cline (2009), there are three major sources of difficulty: 1) Confusion between trying to achieve mathematical understanding, (2) Increased anxiety, relating to problems of miscommunication, (3) Reading mathematics and understanding the language of mathematics is challenging.

There are three phase problem solving analysed of Polya (1981), Krulick & Rudnick (1996), and Zalina (2005) process consists of; 1) reading and understanding problem, 2) organizing strategy and solving problem, and 3) confirmation of the answer and process (Tambychik, Subahan, & Meerah, 2010, p. 146). Based on the identification of problems in mathematics above, there were factors could effect. Generally, cognitive problems were as dominant factor but affective factors such as motivation, math-anxiety, self-efficacy, self-concept, self-regulation also contribute to influence the student achievement in mathematics.

Instead we would see the way ahead through using our descriptive analysis of difficulty in mathematics on the one hand, and the strategy of success of the more able on the

other by using learning theory-social cognitive Bandura, to help the less able develop suitable explicit ways that will help them be more successful in learning by special treatment.

Overview of social-cognitive theory

Bandura (1999, p. 25) criticizes the psychological theories that focused almost exclusively on learning through the effects of one's actions. Bandura did not agree that performance and reinforcement were the dominant factors of the learning process. That the reinforcement did not guarantee that individuals do things in the form of behavior. On the other hand, the personal, behavioral, environmental aspects become a potential source for the individual to learn through observation. For example when teacher taught in class, students would think about what the teacher said (the environment affected cognition-a personal factor). If the student did not understand he would ask the questions (cognition affected behavior). The teacher then repeated the explanation (behavior affected the environment). Teachers assigned tasks to students to complete (environment influenced cognition, which then affected behavior).

This means that the human brain works when humans move in the form of behavior or attitude that can be observed. As when students learn as a behavior is a combination of internal self-aspects of students with external aspects, including the environment. There were interesting things studied further in this reciprocal relationship in the context of learning practices, namely 1) whether personal (learners) have the confidence, confidence to be able to do behavior after interaction (learning) from the environment; 2) how individual (behavioral) responses (teachers) to learners perform the correct behavior; 3) how individuals (teachers, learners) regulate the environment so as to support the improvement of confidence to achieve goals.

Students learn to involve many activities such as observing, imitating, hearing instructions, listening to explanations, reading texts, speaking, writing, doing instruction, and so on. This means that students learn by experiencing themselves (enactive), by processing the information, then there is storage in the brain as a memory in the form of symbols, images, codes and others. This information storage is a cognitive strategy that is characteristic for every individual who studies. This memory becomes the knowledge of students to be stocked in processing information or subsequent knowledge, whether the new

knowledge is really considered or to complete the knowledge that has been stored previously, or new knowledge the same with previous or different memory, etc. then the student in which will construct it into a behavioral form. This is already as a student learning experience. That is, the environment becomes a source of student knowledge to manage aspects of cognition, behavior, attitudes, self-emotional in order to achieve goals. It can be said that social cognitive theory becomes an individual agent for learning.

Learning experienced by students can occur by natural practices or through modeling. Learning through direct practice, experiencing (enactive learning) is learning from the consequences of its own actions. Another learning resource is through vicarious learning because humans are more involved in seeing activity when social interaction with the environment. This is obtained by observing or listening to living, symbolic, or physical models, electronic, or print media.

Student learning process involves motor activity in the form of skills. Students learn complex skills through a combination of observation and practice. The plot in general is that students first observe models that explain and demonstrate skills, students then respond in the form of putting them into practice. It is not conditioning because students are actively experiencing cognitive changes through information processing or prior knowledge. After students observe the object of learning, students cultivate knowledge as a process of cognition further transform information into learning behavior. This behavior can be as a result of impersonation or modeling activities.

There are three main functions of the modeling, namely 1) facilitating the response; 2) removal of obstacles; and 3) observational learning. Facilitating the response means that the observation results serve as a social impetus for the observer to behave in accordance with the example or to refer to the actions most people do; Removal of barriers means that the observation results serve as an obstacle for the observer not to behave in the same way; observational learning are processes that include attention, defense, production, and motivation.

Observational learning is a complex activity because it involves the motor, physical, mental (cognitive) aspects, communication or language, attitude. This is not merely a process of imitating but requires the involvement of cognition to make considerations so that it becomes a form of behavior. First, the observer gives attention to the object, further understanding. The meaning of the process of

attention depends on the assessment of the observer, whether large or vice versa, whether positive or negative. The second process is retention. This process requires organizing, repeating, coding, and the transformation of information by using a specific strategy to save so that it can survive. Third, the process of reproduction is a practical activity as an effort to transform memory in the form of visual and symbolic modeling into real behaviors. After getting the model, students will practice, improve, and repeat. This process has the potential difficulties for the students when complex knowledge could not be translated precisely. Fourth is motivation. Individuals will logically conduct a selection of what behaviors will be done after processing knowledge of observations. Motivation is an important observational learning process by teachers attempted for the purpose of learning can be achieved effectively.

Students process information of knowledge to achieve their own learning goals. Self-regulation is self-controlled learning in which individuals actively cultivate and retain information, behavior, cognition, emotions to achieve their goals. When interacting with the learning environment, students perform the process of self-observation, self-assessment, and self-reactions. Student action results in the influence of self-reactions through performance comparisons with personal goals and standards (Bandura, 2001, p. 8). Self-assessment encourages metacognitive ability to reflect on oneself. Through self-reflection, self-awareness, students assess their motivation, values, and meaning from their life activities (Bandura, 2001, p. 9). This process must have different emphasis or quality of results on each student according to the internal and external characteristics.

Self-regulation becomes an important aspect for students to achieve optimization of learning goals as expected. Teachers have an important role to help students so that students have good self-regulation. When observational learning takes place, students not only capture information, but organize, hone cognition to make the next decision so that the behavior is in accordance with the modeling or not. The ability to regulate cognition and values or characters becomes an important variable for students to learn well.

Motivations is important on the observational learning process, both in the form of cognitive and motor skills, where the elements are goals, expectations of results, values, and self-efficacy. Student encouragement to engage

in logical learning activities is triggered by attempts to achieve something. This is because the learning process is a mental activity with the interaction with the environment.

The existence of a learning subject goal to achieve a certain target will logically affect learning behavior. This can be started from the building of commitment (Schunk, 2012. p. 138). However, there is no guarantee that the stated goals will improve the quality or quantity of learning. There are several characteristics of the objectives and their implications, namely the specificity factor, proximity, and difficulty level (Schunk, 2012. p. 140).

In addition to the objective factor, expectations of the learning outcomes also indicate motivational students. Students who have high expectations of their learning efforts, e.g. want to get the highest score then the students will be excited and try earnestly. Of course students will do a good self-regulation. The existence of high self-efficacy of students to the achievement of their expectations will encourage targeted student learning performance. Teachers certainly play a big role in efforts to improve self-efficacy in hope to their students getting their results achieved effectively. The consequences of student judgment will trigger a motivation that includes goals, expectations, as well as self-efficacy.

Self-efficacy is one of the most influential aspects of self-knowledge in human life. They influence thinking patterns that can increase or weaken performance (Bandura, 1999, p. 25). The individual self-efficacy can affect the individual in determining the action to be taken to achieve a goal, including in the learning process. Self-efficacy becomes one of the variables that can influence one's behavior in doing learning action. Students who have high self-efficacy have the perception, confidence, beliefs about his ability to produce action. This is different from the meaning of hope and self-concept. Hope refers to the opportunity or opportunity to get results according to the intended purpose. While the concept of self refers to the view of self-formed through experience and interpretation resulting from social interaction.

Suppose students get information from teachers that there will be written exams on mathematics subjects. Students assess that the test is important for graduation. Students set a goal of passing a math test with a minimum grade of 8. Student's commitment to achieve that goal. Students are aware of their general ability, also aware of the difficulty of the test materials. But students still have optimism, hope for the results to get the best value so that students will get

praise from teachers, friends, as well as their parents. Before the test, the student remains confident that the test will pass well because he has been prepared by learning. Students are confident with their skills and capabilities even though they are aware of their weaknesses. During the test, students do or answer all questions. This is very different when the student avoids the task by not entering the test room even though her positive expectation still wants to earn praise.

Self-efficacy, purpose, and expectation of outcomes are specific, limited to a particular field of study and few generalizations to other fields of study (Schunk, 2012, p. 146). As part of the attitudes aspect, self-efficacy tends to vary according to the subject's situation compared to aspects of self-concept and other abilities. In general, however, if students have high self-efficacy in the field of mathematics, psychology tends to encourage students to develop self-confidence in their abilities through positive action in other areas, e.g. literature, although not always positively correlated. That is, students will be encouraged to have better business than with low self-efficacy.

There is also a model of peers that can enhance students' self-efficacy. This is when observed peer models that are much similar to the observer and can do a good job (Schunk, 2012, p. 149). Another way is to model coping models, mastery models, and model variations. Activities involving cognitive and social and motor skills are strongly supported by self-efficacy. This is indicated by the subjects of learning who perform observational activities, then apply it in the form of action (skill) in accordance with the results of information (cognition). Cognitive skill activity is related to problem solving, whereas social skills is manifested by attitude when communicating, when meeting, when facing exam, e.g. whether confident or anxious, and so on.

4. Discussion

The mathematical absorption requires high attention to create meaningful perceptions. Thinking logically and using memory effectively are important factors in learning skills and problem solving. Cognitive and psychological factors can also affect the ability to use mathematics. Students may think and show attitudes about mathematics as they show attention, describe the orientation of form and space, create perceptions visually and audibly, memorize simple things, comprehension, or

relate to the degree of meaningful knowledge of mathematics for every student.

One's experience during interaction in mathematics education is a process that involves cognitive because the individual will use the process of thinking, for example when receiving information on something, both from the activity of reading, listening, writing, communication. There were different strategies of learning used by students with high academic achievement and those with low academic achievement. The variable of self-efficacy was equally important to differentiate high academic-achieving students from low academic-achieving students at the university level (Yip, 2012). That is, the environment becomes a source of student knowledge to manage aspects of cognition, behavior, attitudes, self-emotional in order to achieve goals. Students learn complex skills through a combination of observation and practice. After students observe the object of learning, students cultivate knowledge as a process of cognition, then change the information into learning behavior. Thus self-regulation, motivation, self-efficacy becomes an important variable in observational learning so that individuals can learn optimally by optimally in cognitive and social strategy. It can be said that how important to make an adequate representation of the problem and to reflect on the outcomes (Hoek, Terwel, & Eeden, 2006).

The role of self-efficacy associated with learning has been proven by many research results. Bong & Skaalvik (2003) argued that self-efficacy acts as an active precursor of self-concept development. Teachers become important subjects that can affect students' self-efficacy. As Skaalvik, Federici, & Klassen (2015) wrote that "the relations between students' grades and motivation were partly mediated through emotional support and self-efficacy". Margolis & McCabe (2006) presented three sources of self-efficacy-enactive mastery, vicarious experiences, and verbal persuasion-as ways for teachers to figure out what to do and what to say to strengthen struggling learners' beliefs in their academic abilities and increase their willingness to engage in academic tasks. Teacher model as an adult model, acts to give positive effect to the student because what is captured by student to teacher is what is owned by teacher. Those are transfer of knowledge, attitude, values and skills in directly or indirectly ways.

If teachers promote with high self-efficacy, evidenced by their beliefs about the knowledge, abilities, competencies to be transferred to the students then the teacher will be encouraged to

perform activities to educate, to teach, to facilitate the students well. Guo, Piasta, Justice, & Kaderavek (2010) showed a significant interaction among teachers' self-efficacy, classroom quality, and vocabulary gains: for children of teachers with higher levels of self-efficacy, higher levels of classroom quality (emotional support) were associated with higher vocabulary gains. It is meant that teachers will open, execute, and close the learning activities with positive energy by giving positive reinforcement, encouragement, motivation to students. Teachers will give good examples in words and deeds because teachers believe in themselves as a real model for students. Teachers with high self-efficacy will have a resilient attitude, hard work, love challenges with many innovations and creativity in self-development efforts, misleading to training, seminars, workshops, etc. because teachers have confidence in how they will make students succeed only with progressive endeavors and beliefs. Beginner teachers will be more successful in their careers and tasks if they have confidence in their abilities with concrete actions, e.g. through study or internship from senior teachers or engaging in trainings and mentoring to improve the quality of teaching methods.

Peer modeling is also an effective suggestion for growing and improving students' self-efficacy. Through peer tutors, the students' self-esteem and observer confidence will increase. Students will have confidence to complete tasks such as peer tutor so that will be motivated to achieve. Better peer tutor will be more confident with his ability, confident with his ability to successfully do the goal because it applies as a model for peers. This is a form of practice tutoring. Individual and collective practice needs to be done to improve learning independence.

Applied examples are effectively performed to improve students' self-efficacy. Starting from looking at the example then the student is sure to understand the model and put it into practice. In order to focus attention, it is necessary to use some principles. For example, 1) the practice is done step by step with clear instructions, 2) using variations of presentation form, e.g. two models are better than one model, two different models are better than the same two models, both in theory and practice, 3) variation models of information. Information can be in the form of textual, visual, and auditory.

Another practice that can improve self-efficacy is mentoring, which teaches participants skills and skills (e.g. students, teachers) in the

form of training or internships. Mentoring aims for self-development so as to relate to the motivational. Participants will grow confidence in their abilities after learning from mentors. Participants will feel the same experience as the mentor after the self-regulation process so that it will be motivated to practice it.

5. Conclusion

Frederickson and Cline (2009) noted that there are three major sources of difficulty: confusion between trying to achieve mathematical understanding, increased anxiety, relating to problems of miscommunication, and reading mathematics and understanding the language of mathematics is challenging. Bong & Skaalvik (2003) argued that self-efficacy acts as an active precursor of self-concept development. Teachers become important subjects that can affect students' self-efficacy. Through peer tutors, the students' self-esteem and observer confidence will increase.

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AUTHENTIC ASSESSMENT AND STUDENTS' MATHEMATICAL LITERACY

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Abstract

School teacher still use traditional assessment approach in mathematics learning which cause students lack in mathematical literacy. One alternative of assessment which can be applied by teacher is authentic assessment. Authentic assessment is assessment activity which is done integrally in mathematics learning when collecting information. Authentic assessment is assessment which more emphasize on students' process and performance in learning. The aim of authentic assessment application in mathematics learning is to enhance students' mathematical literacy. The method used in this article writing is literature study from result of study and field observation by searching and organizing literature resources which is suitable with the problem studied. In implementation of authentic assessment, teachers can obtain information of students through kinds of assignments in mathematics learning such as students' journal, portfolio, project assignment, and field observation. Based on analysis result of problem in article discussion, it can be concluded that: 1) The application of authentic assessment in mathematics learning can enhance students' mathematical literacy, 2) Students have positive response toward authentic assessment in mathematics learning, and 3) Enhancement of students' problem solving ability in mathematics learning.

Keywords: Assessment, Authentic Assessment, Mathematical Literacy

1. Introduction

Assessment is a process integrated in learning to collect information. Assessment process is part of teacher's tasks beside arranging learning program in school. Without assessment process, teacher will not know to what extent of success in learning program which had been planned and implemented. In addition, assessment is measurement tool to know to what extent of success level achieved by students in learning. Assessment can be done without passing through evaluation process. But, evaluation cannot be done without doing assessment process.

Basically, assessment is done to enhance learning quality. Learning quality here is quality of teacher and student learning which can enhance directly the quality of education in Indonesia. Therefore, the role of assessment is very big in determining learning direction and education quality. The effort to enhance education quality can be done by improving quality of learning and assessment system. The two are interrelated, in which good learning system and assessment process will result in good learning quality. Good assessment system will encourage teacher to determine good strategy in teaching and motivate students to learn better (Djemari Mardapi, 2003).

Therefore, in mathematics learning, teacher not only should competent in delivering the material but teacher quality in assessment should also good. Thus, teacher should be more optimal in assessment and evaluation activity in enhancing the quality of learning program and quality of student learning. Teacher in assessment process not only rely on students' learning outcome but more on students' learning process. Related to assessment process done by teacher in mathematics learning, the initial step done by teacher is to make planning. Planning is guidance in doing a learning process. Planning comprise content, method, media and learning activity in class. There are three basic components in learning planning, namely the goal of learning, teaching learning process, and assessment system. These three components is a system which cannot be separated for each other. It means, teacher should know what assessment system which is applied in learning in class (Ngalim, 2004).

Based on observation and interview result with a mathematics teacher in Senior High School in Bandung City, it is obtained the information that in mathematics learning, assessment process still use traditional and classic assessment, that is, pencil and paper test. This test still become the only tool to measure

teacher and student success in mathematics learning. Paper and pencil test only measure student memory of factual information and algorithm procedure only. It means that in the process of searching solution for mathematical problem in paper and pencil test, students only guess the answer. The form of paper and pencil test usually only multiple choice, fill blank box, choose the true-false answer, and fill short answer test. Such a test certainly will not reflect the actual competence possessed by student (Lantas et al, 2004).

The result of study conducted by Pantiwati (2013) about assessment system profile used by teacher also shows that the form of objective written test dominate measurement instrument of students' learning outcome. Besides, students' response also support written test compared with another form of assessment. Students also dislike assessment through critical analysis of article which demand higher order thinking. Students also dislike portfolio assessment.

There are some critiques toward the use of traditional test (paper and pencil test) as the only tool to take decision about students. Some critiques about that test among other are: 1) only assess scientific knowledge (Mokhtari et al, 1996); 2) the assessment tend to achievement level which assess limited dimension of learning outcome (knowledge and skill); 3) cannot used to assess scientific reasoning in depth; 4) difficult to measure understanding about the essence of science and process of how scientist work (Marzano, 1993); NRC, 2000); 5) often less show students' actual ability; and 6) less suitable to measure achievement of all important goal in science curriculum in school (Ana Ratna W, 2007).

The use of paper and pencil test trigger teacher and student in mathematics learning to pose the quick strategy to answer mathematics problem. The quick strategy in answering mathematics test is often called as smart solution. Thus, it 's not wonder that many students often use smart solution method. Smart solution method is the quick way to obtain the answer from mathematics problem which is practical and brief. It means that this method is allowed to done by students if they really master well its basic concept and know when to use it. In fact, students do not understand it. Students only use it so this problem solving method not reflect students' understanding and mathematical literacy ability.

One problem in mathematics learning is students' mathematical literacy ability, such as in problem $2 : \frac{2}{3} = 3$. When seeing this division problem, students usually can answer it easily.

Because the process they know is based on teacher solution by changing the form $2 : \frac{2}{3} = 3$ become $2 \times \frac{3}{2} = 3$. According to students and also teacher, this solution had just accomplished. Based on the mathematical problem above, teacher can assess the process of student in getting the answer 3. For example, they can ask, why, is there another way to get the answer 3 beside that way, if yes, what is that. Of course, if teacher do authentic assessment process which can more emphasize on students' process and performance based on many sources to collect information then students' mathematical literacy ability will enhanced. Students' literacy ability demand students' skill and higher order thinking to solve a problem in learning.

Students use the quick strategy to answer the problem in multiple choice and short essay tests. The time given to do the problem is limited whereas there are many problems given, so the only way to do is using smart solution. As consequence, students enter private class and enrolled in study guidance class which offer the practical way or strategy to answer the problem by using smart solution method.

As we know, paper and pencil test still become a tool to measure whether student passed or fail to be graduated from high school and their eligibility to admitted in educational institution. It means that if traditional test administered by teacher or in educational institution is continually done without trying another assessment process, then students change to finding the answer by guessing or smart solution method will persist. Even though we know that some people see that there is creativity in the use of smart solution, this is contrast with ability possessed by students, because students get a way or strategy without knowing why and where the process come from. This situation make students' ability in mathematical literacy become low. In process of mathematics learning and assessment, teacher should prioritize assessment of students' process/performance in solving mathematical problem in order to enhance students' mathematical literacy ability.

Based on the problem above, the author is interested to conduct a descriptive literature study with title "Authentic assessment and students' mathematical literacy ability". The formulation of problem in this article is how the relation of authentic assessment in enhancing students' mathematical literacy ability. As for the aim of this study is to find out to what extent of authentic assessment can enhance students' mathematical literacy.

2. Method

This article is a descriptive literature study. The problem in this article is analyzed and studied based on the result of observation done by author in field which is supported by literature study and result of study from relevant research. This article study to what extent of authentic assessment in enhancing students' mathematical literacy based on mathematical problem given by teacher.

3. Discussion

Assessment

Before we discuss what is authentic assessment, we need to know that there are three terms in learning evaluation, namely test, measurement, and assessment. Test is one way to in appraising one's ability directly, through his or her response to stimulus or question given (Djemari Marpadī, 1999). Test is one measurement tool to collect information and characteristic of an object. Measurement is a process to assign a number to individual based on certain rule and the nature of measurement is quantitative. In measurement, measurement process is done by comparing something/someone to a benchmark (Daryanto, 2008).

Therefore, the essence of measurement tool is a process to quantify or assign a number in one's characteristic or condition whether in cognitive, affective and psychomotor abilities. Measurement has broader concept than a test. Because measurement activity can be done without using a test, for example observation or rating scale in obtaining information about an object measured. In assessment there is some steps which are should be passed through, namely: 1) Planning, 2) Data Collection, 3) Data verification, 4) Data analysis, and 5) Data interpretation.

Assessment has different meaning with evaluation. Even though the term assessment according to Popham (1975) is a term which is often equated with evaluation. The word assessment is thought more "friendly" than evaluation. After two years, Popham (1995) more emphasize that in essence, the word assessment and evaluation in principle is not different, and using it with the same meaning (Dantes, 2008). According to Salvia and Ysseldike (1994), assessment is a process to collect data in order to make decision about an object. Popham (1975) said that assessment is a formal effort to determine the status of object in various aspects assessed. Nitko (1996) said that assessment is a process to obtain the data used to

take decision about learner, educational program and educational policy. If it said "assess learner's competence", than it means collecting information to determine to what extent of a learner had achieved a learning target (Dantes, 2008).

Assessment is a process to assess individual or group work in an activity. Shrock and Coscarelli stated that assessment is an activity done by collecting information both qualitative and quantitative systematically without considering decision about value (Karim, 2003). Assessment in learning is an effort to obtain various information regularly, continuously, and entirely about process and result of development which had been achieved by students through learning activity process (Setiatava Rizen, 2013).

According to Bloom that evaluation is a process to collect facts systematically to decide whether in reality there is change happen to students and decide to what extent of the level of this change (Daryanto, 2008). While Tatang Herman stated that evaluation is different with assessment in which evaluation is activity to collect, process and present information in making a decision and policy in enhancing the quality of students' learning. That definition is delivered during regular class in "Evaluation of Mathematics Learning" Course on Thursday, 2nd February 2017.

Assessment which is done should fulfill some requisites as follow:

- a. Has validity, in which assessment should measure something which is really to be measured.
- b. Has reliability, in which an evaluation tool has reliability if it shows the decision of its result.
- c. Objectivity, in which an evaluation tool should really measure what is should be measured without interpretation which has no to do with evaluation tool.
- d. Efficiency, in which an evaluation tool as could as possible can be used without spend much time and cost.
- e. Practical, in which evaluation is useful to obtain information about students so it can give the best guidance to students (Oemar Hamalik, 2011).

Aim, Function and Principles of Assessment

The aim of assessment is to know what extent of students' success in learning activity which can enhance the quality of students' learning. In general, the aim of assessment in education are: 1) collect various information which can be made to become development

evident experienced by students in learning activity, 2) measure and assess the effectiveness of teaching and various teaching method which had been applied, 3) stimulate students activity in pursuing educational program, and 4) seek and find various factors which can determine the cause of students' success and failure in learning. The main aim of assessment according to Clarke in Tatang Suherman is to model effective learning, to monitor development of students' ability, and to inform what action needed by students in learning. With assessment being done, teacher can find out the method or learning approach which is appropriate to students. This is certainly very important in making learning atmosphere which is effective, innovative, and creative for students which can enhance students' ability in mathematics learning in school. In addition, teacher can reflect on learning process experienced by students so teacher can make better learning in the future.

The function of assessment in general are to measure progression, to support the arrangement of plan, and to improve or refine. For teachers, didactic assessment has some functions, namely: 1) give foundation to assess students' learning outcome, 2) give important information to know students' position in learning groups, 3) give important material in choosing and deciding students' status, 4) give teacher a guidance to find solution for students needed, and 5) give teacher hints to what extent of learning applied had been achieved.

The main principle in assessment is how teachers can do good assessment so they can produce the right output and can describe students condition in learning which is useful in enhancing the quality of students' learning. Basically assessment is problem solving by collecting information to make a right decision in all aspects of learning. As for the principles of assessment are:

1. Assessment is done to enhance the quality of learner and learning.
2. The method of assessment should be designed appropriately in order that students can demonstrate what they know.
3. Assessment should be operational in mathematics learning in school.
4. The quality of assessment not determined by the ease of scoring objectively.
5. Assessment tool is practical.

According to Prof. Tatang Herman in "Evaluation of Learning" course that there are several aspects which are assessed in mathematics learning in school, namely: 1) concept understanding, 2) mathematical skill, 3) students' problem solving ability, 4) students'

attitude and confidence, and 5) students' ability in mathematical literacy.

The Meaning of Assessment

Assessment in educational field has very central role in building quality education. Arikunto stated that assessment has some meanings for students, teachers and school (Setiatava Rizema, 2013).

a. The meaning for students

Assessment has meaning for students in which enable them to know what extent of their success in learning given by teacher. There are two possibilities of result obtained by students, namely:

First, satisfying. If students obtain satisfying result and it is make them happy, of course they want to experience it again in another occasion. As a result, student will has strong motivation in learning to obtain good and satisfying result. On the other hand, when students obtain satisfying result, it also make them feel satisfied immediately and it will bring negative effect to them. Therefore, the role of teacher is very needed to motivate students in order they not feel satisfied immediately in achieving something.

Second, not satisfying. If students are not satisfied with the result obtained, then students will study harder in achieving something. These students will try harder in another occasion to achieve the target desired. However, the opposite can be happened. Students who had not obtained satisfying result will make their learning spirit become low because they felt depressed and pessimist.

b. The Meaning for Teacher

Some meanings of assessment for teacher are:

1. With assessment result obtained, teacher know the students who can continue their study because they are success to master the material and students who do not master the material.
2. Teacher know the right material who be taught to students, so they don't need to do change in teaching in the future.
3. Teachers cannot identify the appropriate learning method for students in learning process.

c. The Meaning for school

Some meanings of assessment for school are:

1. If teacher do assessment and then knowing students' learning outcome, then it can be

known also whether or not the learning condition created by school had met the expectation. Learning outcome is reflection of quality in that school.

2. School can know whether or not the curriculum applied is appropriate based on information or assessment result obtained from teachers.
3. Information of assessment result obtained from year to year can be made to become reference or guidance for school whether or not the assessment process done by school had fulfill the standard.

Authentic Assessment

Hart (1994) stated that authentic assessment is assessment done through students' presentation or performance in doing assignment or another activities which have education meaning directly (Pantiwati, 2013). Tatang Herman in article "Assessment in mathematics learning" stated that authentic assessment is an assessment done by using various sources, during/after learning activity occurred, and become integral part of learning process.

Based on these two opinions above, authentic assessment is assessment activity done by teacher during or after learning in collecting information when students do assignments or another activities. Therefore, performance based assessment or process assessment is important part in authentic assessment.

One form of authentic assessment in mathematics learning is process/performance assessment. Marhaeni (2007) said that performance assessment is an assessment of process in acquiring knowledge and skill through learning process which shows students ability in process and product. Performance assessment is a procedure which use various forms to obtain information about what had been done during program and to what extent. Monirtoting is based on students' performance in solving assignment or problem given (amriantiwamli.wordpress.com).

Performance assessment often refer to authentic assessment in which teacher asses performance by watching students involved in problem solving based on learning experience assessed in students. Performance assessment is needed by students to demonstrate skill which is actually done. Thus, performance assessment is needed to observe and evaluate students' skill. In performance based assessment, students' activity is very determined in accord with skill they have. Therefore, teacher can find out and assess the achievement obtained by students in various

learning process which cannot be described in paper and pencil test.

According to Corebima (2004), talking about authentic assessment actually is talking about non-authentic assessment; because "the opposite" of authentic assessment is non-authentic assessment. Therefore, it is not right to imagine that the opposite of authentic assessment is paper and pencil test; not all paper and pencil test automatically is non-authentic. Similarly, traditional test not automatically become measurement tool in non-authentic assessment, so traditional assessment is not categorized as non-authentic assessment (Pantiwati, 2013).

The difference between traditional assessment and authentic assessment in detail is presented in Table 1. This explain that authentic assessment should involve students in authentic tasks which are beneficial, important and meaningful. Besides, authentic assessment is integral part of learning in class.

Table 1. Comparison of Authentic Assessment and Traditional Assessment

Traditional Assessment	Authentic Assessment
A certain period of time	Time determined by teacher and student
Measure lower order skill	Measure higher order skill
Apply drill and exercise	Apply critical and creative strategies
Has narrow perspective	Has whole perspective
Reveal the facts	Reveal the concepts
Use group as standard	Use individual as standard
Rely on memorization	Rely on internalization
Only one correct solution	Has many correct solutions
Reveal competence	Reveal a process
Teach for exam	Teach for needs

(Source: Frazee and Rudnitski, 1995 in Corebima, 2004:9 in Pantiwati, 2013).

Mathematical Literacy

According to Rod Welford, The Minister of Education and Culture, Quennsland, Australia, that "literacy is the heart of a student's ability to learn and succeed in school and beyond. It is essential we give every student from prep to year 12 the best change to master literacy so they can meet the challenges of 21st century life" (surabayakotaliterasi.com). In addition, according to Campbell, I, Kirsch and A Kolstad (1992) that literacy can be understood as a set of ability to process information, elaborate and understand a school reading. Based on this understanding, literacy not only about reading

and writing, but also comprise another fields, such as mathematics, science, social, environment, financial, even moral (moral literacy). Based on opinion above, mathematical literacy is student ability to understand a mathematical problem by involving student's thinking ability in solving a problem.

From test and survey result of latest PISA in 2015, students' literacy is still categorized low. This survey involved 540.000 students in 70 countries, analyzed and published on 6th December 2016 in OECD web in address <https://www.oecd.org/pisa>. The survey result showed that the first rank is Singapore. Then, what about Indonesia? From three materials tested, namely science, reading and mathematics, Indonesia was in 62nd, 61st, and 63rd rank respectively from countries which are evaluated. The result of PISA 2015 showed that Indonesia rank is not much differ from earlier years. For example, in 2012, literacy and mathematical ability of Indonesian students was in 64th rank from 65 countries. Whereas, Indonesia had participated in Programme for International Student Assessment (PISA) since 2000 (Iswadi, 2017).

Based on survey result above, it's not wonder that government through Ministry of Education and Culture launch school literacy movement or *gerakan literasi sekolah* (GLS). The goal of GLS are:

1. Cultivate reading and writing literacy culture in school.
2. Enhance capacity of community and school environment to be literate.
3. Make school as learning garden which are fun and friendly in order that school members are able to manage the knowledge.
4. Maintain learning continuity by presenting various reading books and reading strategies.

As for principle of GLS are:

1. Appropriated with development stage of students based on their characteristic.
2. Implemented in balance by noticing students' needs.
3. Integrated.
4. Literacy activity is done continually.
5. Involve students' communication skill.
6. Consider diversity
(mangwaskim.blogspot.com)

The Relation of Authentic Assessment to Students' Mathematical Literacy Ability

Authentic assessment encourage students to show students' skill in solving mathematical problem. One skill which should be possessed by students is mathematical literacy ability. Mathematical literacy ability is skill possessed

by students to understand, think and get a solution based on process to read situation or mathematical problem faced. Authentic assessment demand students to use scientific knowledge based on existing concepts in students' thinking and experience scheme.

As for the assignment in authentic assessment in helping students' mathematical literacy are: 1) portfolio, 2) journal/paper writing, 3) simulation, 4) make design and presentation, 5) critical observation, 6) doing individual and group project, 7) report result of field study, 8) doing problem solving activity, 9) make concept map, etc. Furthermore, assessment strategies which are used in doing continuous assessment are as follow: performance assessment, observation, questioning, presentation, discussion, experiments/demonstration, projects/ exhibition, story or text retelling, investigation, portfolio, journal, interview, conference, and self evaluation (Brown, Janet, H.S. & Richard, J, 1996).

Students' literacy ability also play a role to solve mathematical problem. Therefore, students who have good mathematical literacy ability will help students in thinking to find their own problem solving strategy. In addition, students understand the process to obtain that solution. It means that students not imitate or just memorize the knowledge. Because in authentic assessment in Table 1, students' problem solving rely on internalization skill or knowledge. Internalization skill is created because students can construct new knowledge based on existing scheme and experience.

Students' mathematical literacy ability can be created if teachers do authentic assessment in mathematics learning. Because students will be encouraged to continually enhance their literacy ability in learning to get the perfect working result. This happen because without literacy students will not be able to face existing mathematical challenge or problem. Given the importance of literacy, mathematics teacher also should be aware of quality literacy learning and authentic assessment is the key of students' success in learning and mathematical problem solving. Therefore, mathematics and science teachers are called as teachers of literacy.

The application of authentic assessment encourage students to show their mathematical literacy ability. With good mathematical literacy ability, students will quickly and easily to find problem solving strategy of $2 : 2/3 = 3$. Besides, students also will know why this strategy is used and can find another solution strategy. According to Prof. Jozua Subandar, MA when delivered Philosophy of Science course in Post Graduate

Program of UPI, authentic assessment which can be given by teachers in mathematics learning is to know to what extent of students' ability in mathematical literacy, namely: 1) Why $2 : \frac{2}{3} = 3$? 2) How? 3) Is there any other way? and 4) What if?

Students who have good ability in mathematical literacy will start to think and find problem solving strategy above. The possible reactions of students are:

Strategy 1

$2 : \frac{2}{3} = 2 \times \frac{3}{2} = 3$ why? Of course, which is interesting here is that student can define the number 3 and can find its process/strategy. Student will start the process from the existing situation that is division.

What the relation between division and multiplication? Before student find the relation, then the illustration of strategy which is possible taken by student is as follow: $6 : 2 = 3$ and $6 \times \frac{1}{2} = 3$.

It means that students can find the relation that 2 and $\frac{1}{2}$ is invers. Therefore, students can find why $2 : \frac{2}{3} = 3$ that is, $2 : \frac{2}{3} = 2 \times \frac{1}{\frac{2}{3}} = 2 \times \frac{3}{2} = 3$.

Strategy 2

$2 : \frac{2}{3} = 3$? How $2 : \frac{2}{3} = \dots$? $2 - \frac{2}{3} = \frac{4}{3}$, $\frac{4}{3} - \frac{2}{3} = \frac{2}{3}$, $\frac{2}{3} - \frac{2}{3} = 0$ Thus, $2 - \frac{2}{3} - \frac{2}{3} - \frac{2}{3} = 0$ (3 times subtraction by $\frac{2}{3}$) si, $2 : \frac{2}{3} = 3$. Based on problem solving process and strategy which is given as above, then it is very important for teacher to apply authentic assessment in assessing students' mathematical literacy ability. Therefore, authentic assessment can be made to become another alternative assessment in mathematics learning in order that teacher not only use paper and pencil test when doing assessment and not just seeing students' learning outcome but learning process. It is because assessment should be integrated into learning.

4. Conclusion

Based on analysis result of problem in this article discussion, it can be concluded that: 1) The application of authentic assessment in mathematics learning can enhance students' mathematical literacy, 2) students have positive response toward authentic assessment in mathematics learning, and 3) the enhancement of students' problem solving ability in mathematics learning.

As for suggestion from the author is that mathematics teacher in school can use authentic

assessment in mathematics learning. In using authentic assessment, teacher more motivate students in doing assignments through portfolio, students' journal, homework, field observation, and project assignment.

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BUILDING A LEARNING ORGANIZATION CULTURE-BASED SCHOOLS

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Abstract

School is still struggling to build a learning organization. Learning organization is an organization that provides opportunities for all citizens of the school to improve their personal capacity and mutual learning. School culture has a strategic role in achieving the intended learning outcomes. In the management of curriculum implementation in 2013, the principal demanded to implement the change management function, the development of school culture and instructional leadership. These three things are synergize as input to produce the expected learning outcomes. School culture developed generally preferred to construct a good attitude and behavior according to the character of the nation. But awareness to develop the school as a learning organization is still not recognized by the whole school. Many schools consider that school was guaranteed by the government can still stand up at any time. Many schools have forgotten that schools also behave like a company where the organization did not develop the school will lose or less desirable. Here was the importance of principals to enter school as a learning organization in its vision and mission, as well as implemented in the school culture. Therefore, a good school has a good school culture. This article aims: (1) to identify the problems of the school in creating a learning organization, (2) describe the cultural role of the school to build a learning organization. This article is a pre-research using literature by doing some study books related to school culture and a learning organization. Results of the study found was the development of the school culture has a major impact in building a learning organization, the next one can improve student achievement and school quality. School culture was developed with strong leadership from the principal. Learning organizations can not exist just yet to be discovered. The school principal as a leader in the school had to consciously perform the transformation of bureaucratic school into a learning organization. Principals are expected to truly master the discipline of mental models and systems thinking discipline to direct its vision and mission towards a learning organization, and together the school community have the commitment and willingness to develop the capacity to realize the vision and mission.

Keywords: school culture, organizational learning

1. Introduction

Education is a process of culture, that is to instill the values and norms in the order of life of nation and state, making human beings become virtuous, noble and cultured. School as an organization has value and adab which subsequently became the school culture. School culture is created as a result of the acculturation of the value of the socialization process of fellow citizens, school residents with the community, and the process of assimilation with the policies issued by the government. The school culture will then create a different and distinctive school environment compared to other schools. The atmosphere created by a positive school culture can be more comfortable, spur achievement, foster competitive souls and other spirits that have an impact on the educational process at school.

The principal has a very important role in producing good quality learning through its role

in change management, the development of school culture and management of learning. When this role encourages the principal to make continuous improvement, then this is relevant to the learning organization. However, schools today are not yet aware of or most of the difficulties of transforming into learning organizations. Therefore this paper, as a pre-research, examines how to build a school-based learning organization.

Learning Organization

Learning can happen to individuals and groups of individuals within the organization. Peter Senge, The initiator of learning organization (1990) defines the learning organization as follows.

" ... organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are

nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together."

So learning organizations are organizations in which members continually expand their capacity to create highly desirable outcomes, where new expansive patterns of thinking are grown, collective aspirations freed, and people continually learn to see the organization as a whole together. Peter Senge describes organizational learning as five interrelated disciplines: (1) shared vision, (2) system thinking, (3) team learning, (4) personal mastery), And (5) mental patterns. These five interconnected disciplines are known as "The Fifth Discipline" which is visualized in Figure 1.

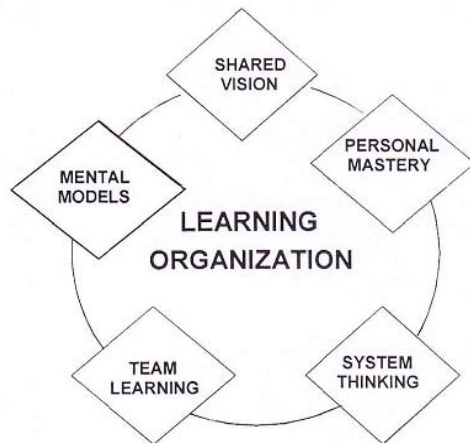


Figure 1. Learning Organizations

In addition to the five disciplines above, Marquardt, further defines the learning organization as a strong and collective learning organization and constantly improves itself to acquire, organize, and use knowledge for mutual success. Learning organizations also empower human resources in and around and utilize technology to improve learning and productivity. Marquart defines the learning organization as follows.

" A learning organization... is an organization which learns powerfully and collectively and is continually transforming itself to better collect, manage, and use knowledge for corporate success. It empowers people within and outside the company to learn as they work. Technology is utilized to optimize both learning and productivity."

Marquardt further describes that learning organization is a system consisting of five subsystems, namely: (1) learning, (2) knowledge, (3) technology, (4) people, and (5) organization. Learning is the essence of organizational learning, but learning requires the support of the other four components. The five subsystems are depicted as shown in Figure 2.

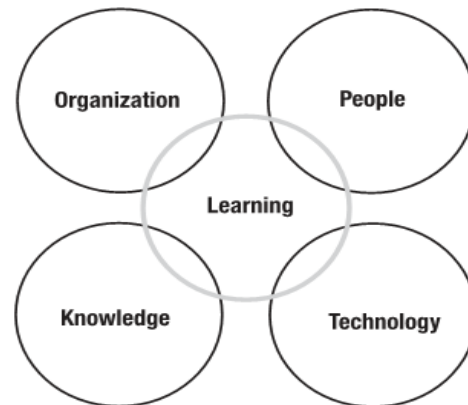


Figure 2. Five subsystems of Learning Organizations

School Culture

School culture plays an important role in improving school effectiveness. The school culture is the soul of a school that gives meaning to the school's educational activities, if the school culture is weak, it is not conducive to the establishment of an effective school. Conversely, a strong school culture will become a facilitator for effective school improvement.

School culture is the atmosphere of school life where learners interact with each other, teachers with teachers, counselors with learners, among educational personnel, between educational staff with educators and learners, and among members of community groups with the citizens of the school (Kemendiknas, 2010: 19) . Zamroni (2011: 111) provides a limitation that the school culture is a pattern of values, principles, traditions and customs that are formed in the long journey of schools, developed schools for long periods of time and become a grip and is believed by all citizens Schools so as to encourage attitudes and behavior of school residents. School residents according to UU No. 20 of 2003 on national education system consist of learners, educators, principals, educators and school committee. One of the subjects taken in this school culture research is students (students).

School culture can actually be developed constantly towards a more positive. The core culture aspects recommended for school development are as follows: (1) honest culture, (2) culture of mutual trust, (3) culture of cooperation, (4) reading culture, (5) disciplined and efficient culture, (6)) Net culture, (7) achievement culture, (8) culture reward and admonish.

The school culture is not a rigid, but flexible and can be developed to adapt to the environment. The format, form, and systematics of school culture as well as culture in an organization will be largely determined by those who establish and lead the organization itself.

School Culture Development Strategy

The school culture as described above is a shared value system, beliefs and norms that are shared and implemented with full awareness as natural behaviors and shaped by the environment by creating a common understanding for all school sivita. Robbins (2002) states that the founders of organizations usually have a big impact on the early culture of the organization, they have a vision of how the organization should be. The values contained in the basic concepts of the organization will usually be the basic philosophy of organizational management and development. Cultural changes that exist within an organization are the development and refinement of an existing culture. Robbins (2002) describes the process of creating an organizational culture illustrated in Figure 3

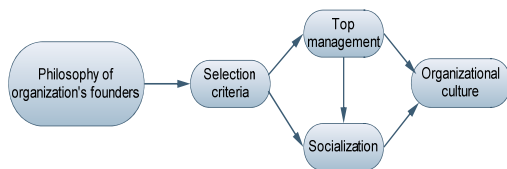


Figure 3. The process of Creation of Organizational Culture

Organizational culture is created as a result of the process of management and socialization among the components of the organization, the process is the implementation of the philosophy as the basic value of the organization that has been selected. This process can be cyclical so that a new organizational culture can be created that can make the organization and the performance of the organization better.

Given that culture can be created and developed it is appropriate if the culture that has been felt to have deficiencies made changes or

may be created a new culture for better school conditions. The creation of a new culture must be done carefully and through in-depth study, the changes that occur are not instantaneous but proceed from simple to fundamental stages. New cultural changes must have positive implications and be able to anticipate future conditions, so that the school organization will be better equipped to face future challenges.

The efforts to develop a school culture should refer to positive school principles and cultural principles. The principles of school culture development (Pusbangtendik, 2014) are as follows: (1) Focus on Vision, Mission and School Objectives (2) Formal and Informal Communication Creation (3) Taking into account the risks because each change contains risks to be borne (4) Using clear and measurable strategies (5) Strong commitment (6) Evaluating school culture's success and success.

In addition to referring to a number of principles above, efforts to develop a school culture should also adhere to the following principles (Pusbangtendik 2014): (1) Teamwork, (2) Referring to the ability to perform tasks and responsibilities, (3) , Refers to the willingness or willingness to perform tasks and responsibilities to satisfy learners and society, (4) Joy, The value of this excitement must be shared by all school personnel in the hope that our excitement will have implications for a friendly school environment and climate And fosters feelings of satisfaction, comfort, happiness and pride as part of school personnel, (5) Respect, is a value that shows appreciation to anyone both in the school environment and with other education stakeholders, (6) Honesty is the most fundamental value in School environment, both honesty to yourself and honesty to others, (7) Discipline is a form of adherence to rules and sanctions that apply in the school environment, (8) Empathy is the ability to put themselves or can feel what is felt by others but not dissolve in that feeling, (9) School stakeholders accompanied by the ability to gain trust from anyone will give a reassuring impression to others.

The development of a school culture is needed to anticipate the need, rapid technological change or perhaps a change in government policy in education. This requires the principal to innovate so that the new values are institutionalized. School culture development strategy can be through three stages, namely: pre institutionalization, semi institutionalization, and full institutionalization (Tolber and Zucker, 1996). In the pre-institutionalization stage, Habitualization process occurs. Then increased

in the semi-institutionalization phase, Objectification process occurs. And on institutionalization. There is a process of Sedimentation so that values are cultured within the school. The strategy for developing this school culture is illustrated in Figure 4.

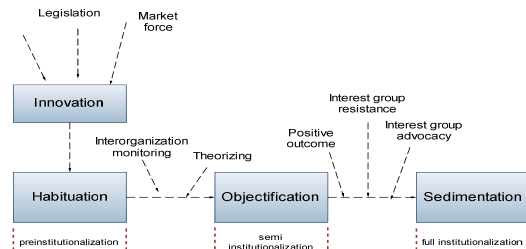


Figure 4. School Culture Development Strategy

Habitualization. In an organizational context, the process of habitualization involves the generation of new structural arrangements in response to a specific organizational problem or set of problems, and the formalization of such arrangements in the policies and procedures of a given organization, or a set of organizations that confront the same or similar problems. These processes result in structures that can be classified as being at the preinstitutionalization stage. At the preinstitutionalization stage, then, there may be multiple adopters of a given structure, but these are likely to be comparatively few in number, limited to a circumscribed set of similar, possibly interconnected organizations facing similar circumstances, and to vary considerably in terms of the form of implementation.

Objectification. The movement toward a more permanent and widespread status rests heavily on the next process, *objectification*, which accompanies the diffusion of structure. Objectification involves the development of some degree of social consensus among organizational decisionmakers concerning the value of a structure, and the increasing adoption by organizations on the basis of that consensus.

Sedimentation. Full institutionalization involves *sedimentation*, a process that fundamentally rests on the historical continuity of structure, and especially on its survival across generations of organizational members. Sedimentation is characterized both by the virtually complete spread of structures across the group of actors theorized as appropriate adopters,

and by the perpetuation of structures over a lengthy period of time.

Organizational Development Strategy Learning based on school culture

Phillip C. Schlechty suggests learning organizations are formal social organizations that purposefully create, support, and use learn communities and learners from the primary means of inducting new members; Creating, developing, importing, and exporting knowledge; Assigning tasks and evaluating performances; And establishing goals and maintaining direction. Learning organizations create and maintain networks.

Learning groups are the building blocks on the stands, but they are not formal organizations. Learning organizations are formal organizations. These formalized systems define the legitimacy in the life of the organization, the kind of operating systems that will be employed.

Learning communities can exist in formal organizations based on bureaucratic principles, but their existence is always insecure and usually temporary. Indeed, one of the reasons that the community movement movement is threatened is that many people are trying to install learning communities in schools while leaving essential bureaucratic structures intact. These communities can not thrive without systems to support them

Phillip C. Schlechty calls the school in general a bureaucratic or bureaucratic institution. The notion of the school as a bureaucracy to show how to preference for compliance and control has driven educators to model schools and factories, aimed at the mass production of products such as automobiles, and governmental agencies and other types of organizations that give preference to operating systems That reflect compliance and control as core values. The contrasting idea, the school as the learning organization provides a way of describing a flexible and creative mode of organization, one where working on and working with knowledge and putting knowledge to work are primary modes of operation. He compared the characteristics of bureaucratic schools and schools as learning organizations in the following Table 1.

Table 1. Comparison of the characteristics of bureaucratic and school schools as learning organizations

Bureaucratic Schools	Learning Organizations
The primary purpose of the school is identified in a way that defines the student in a passive or submissive role — for example, the student as product, raw material, client, or conscript	Students are viewed as volunteers rather than conscripts, and it is assumed that for them to learn what the community wants them to learn, they must be provided with work that has qualities and characteristics that respond to the students' own motives.
The willingness and ability of students to comply with uniform performance standards set by various “end users” — such as the business community or colleges and universities — are usually of central concern.	A well-articulated set of norms places task engagement and profound learning at the center of the school's system of values and clearly defines the core business of school as the creation of engaging work for students
Teachers are customarily viewed as employees and as lower-level members of the adult hierarchy	Teachers are viewed as leaders, designers of work for students, and guides to instruction
The principal is usually viewed as a first-line supervisor, in the lower echelon of management	The principal is expected to be a leader of leaders within the school, as well as a member of the superintendent's administrative team at the central office level
Routine, standardization, and predictability of response are desired end states	The idea of continuous innovation aimed at continuous improvement is embraced as a core value, and behavior is guided by clear moral and aesthetic norms combined with a fluid set of technical norms
Rules, procedures, and policies are elaborate and rigidly enforced	Local conventions place emphasis on fairness, equity, excellence, loyalty, courage, persistence, constancy of purpose, and duty as values that define “the way we do business around here.”
Communication flows from the top down with little attention to bottom-up communication or horizontal communication	Conversation and dialogue about the core business of the school and its success in doing that business are the primary tools for building and maintaining the school culture and ensuring the disciplined pursuit of a shared vision of the future

From the above comparison, the school culture developed to bring a bureaucratic school organization into a learning organization is:

- Quality learning and responding to student learning motivation
- A set of norms that put in-depth learning on the value system
- Clearly defines that the core business is creating interesting learning
- Teachers are seen as leaders, who design learning and guide learning
- Headmaster as leader of leaders (teachers) at school
- Ideas on continuous innovation aimed at continuous improvement are held as core values, and behaviors guided by clear moral and aesthetic norms combined with a set of technical norms that are not rigid.
- Building rules by convention that emphasize justice, equality, excellence, loyalty, courage, perseverance, determination of purpose, and task as the value that defines the way school works.
- Building communication and dialogue for the school's core business

Learning organizations do not happen by chance; they are invented. School leaders must make a conscious choice to transform their schools from bureaucracies to learning

organizations. The superintendent, teacher leaders, and principals must have the insights and skills needed to develop in others the commitments and capacities required to move this agenda forward.

There are many factors why schools have difficulty building learning organizations in schools. Among them:

- Awareness about the importance of learning organization is still low
- Lack of ability of headmaster in developing school culture
- Vision-mission schools have not been fully compassed school changes
- Mostly in schools, the principal only acts as manager and does not touch the role of leader. In the preparatory program of candidates for principals, candidates for principals are equipped with 3 types of leadership, namely: spiritual leadership, leadership, entrepreneurship, and leadership of learning. But unfortunately, there are still many principals who are directly appointed by the government without following the headmaster preparation program.
- Rules, procedures, and policies are strictly and rigidly defined
- Communication patterns from top to bottom

The lack of awareness about the importance of organizational learning and also the lack of

ability to develop a school culture is the most important part that hinders the establishment of learning organizations in schools.

Transformation is not as simple as installing a new program, a new process or new procedure. Unlike efforts to improve the operation of existing systems, transformation requires more than changes in what people do; it requires changes in what they think and what they feel about what they do. It requires changes in the images people have of the organizations in which they work and live, as well as changes in the way they envision the roles they play in those organizations.

Therefore it is necessary to cultivate a school culture that supports for the establishment of learning organizations in schools. As demonstrated in the school's cultural development strategy, the above values in order to be embedded within the school community requires a process. The process begins with habituation, objectification and sedimentation. All these processes require reliable school interference, which has the capability and insight in the five disciplines of learning organization, namely system thinking, personal mastery, mental models, shared vision, and team learning.

Relevant to that condition, Peter Senge stated that the principal needs to portray himself as an example shown by an indicator:

- a. Being a highly disciplined person in focusing energy in realizing vision-mission, patience, and objectively understanding the facts.
- b. Being a mental model in influencing and understanding the circumstances around and as well as can respond appropriately.
- c. Develop a shared vision-mission as a basis for developing a sustainable commitment that evolves so that principals not only develop compliance

Deal and Peterson (1994, 2009) in Peterson (2009, p.208) states "As leaders, principals take on eight symbolic roles: *Historians*- who delve into stories of the past, *Anthropological detectives* -who uncover current norms and values, *Visionaries* - who articulate deeper purposes, *Symbols or icons* - who communicate values through actions and attention, *Potters* - who shape culture by attending to rituals, traditions, and ceremonies, *Poets* - who use language to articulate core values and purpose, *Actors* - who take key roles in social dramas, *Healers*- who minister to wounds that occur during loss, conflict, or tragedy." Both managerial and symbolic roles are critical in

building successful schools, and both sets of roles can shape a school 's culture.

To realize organizational learning, principals have an important role in shaping the school culture that supports the creation of learning organizations. The principal must be able to play his role as Peterson stated above, the principal must also be adept at painting vivid word pictures of the world as they see it and as they think it should be. This requires that they learn to think metaphorically as well as systemically. It requires that they tell compelling stories as well as present convincing data and persuasive arguments. In brief, leaders must master the discipline of mental models as well as the discipline of systemic thought.

2. Conclusions

The development of school culture has a major influence in building learning organizations, this will bring schools transformed from bureaucratic schools into learning organizations. The development of learning that is interesting, qualified, and responds to student learning motivation in schools is part of the value that must be inculcated to the learning organization. Development of such school culture, the next can improve student achievement and school quality. School culture is developed with strong leadership from the principal. The principal is expected to really master the discipline of the mental model and the discipline of thinking the system to direct its vision and mission to the learning organization, and together the school community has a commitment and willingness to develop the capacity to realize that vision and mission.

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THE CRISIS OF MATHEMATICAL LEARNING

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Abstract

Mathematics learning should receive special attention, so that the learning of mathematics is more meaningful. Meaningful mathematics learning is expected to make students more creative, have a curiosity, and self-regulated. This paper aims to identify the crisis in mathematics learning and provide an alternative solution. This research is a literature study. Research is done by studying literature related to research problem. The results of this study concluded that to solve the crisis of mathematics learning takes a innovative teaching that encourages students to learn optimally both in the independent study or in the classroom. There are 10 principles of innovative learning: student-centered, multiple intelligence, holistic education, experiential learning, problem-based learning, cooperative learning, contextual teaching and learning, constructivist teaching and learning, metacognitive, systemic and systematic thinking, learning with understanding. Applying innovative mathematics learning students are expected to be more creative and independent.

Keywords: crisis, mathematical learning, innovative

1. Introduction

As long as education exists, so long as the problems of education will always appear. Many discussions about education is concerned with how to find the best way to achieve quality education in order to create an independent, critical, productive, creative, innovative human being.

School is one institution that has an important role in preparing quality human beings. At school, students are provided with a range of subjects from primary to intermediate levels. All of subjects given mathematics subjects are considered to play a strategic role, because through mathematics education students are prepared to be able to face changing circumstances and the ever evolving world.

Mathematics education in schools aims to develop students' reasoning so that students can be trained in a person's way of thinking, being consistent, active, creative, independent and having problem-solving skills, which are very useful in social life. Therefore, learning mathematics in schools need attention and very serious handling. Mathematics learning needs to be directed to activities that encourage students to actively learn mentally, physically, and socially.

The expected mathematical learning is that students can actively engage in learning, conduct discussions with friends, and be able to solve math problems with pleasure without burden. But in fact, students often show the opposite situation, students are not active, reluctant to

cooperate, in groups, carry out, and less effort in solving problems or tasks. Such conditions are a problem that must be addressed and will always be faced, especially in the learning of mathematics. The problem continues to evolve with the times and dynamics of change. To overcome this, the first step is to systematically identify the problems and then formulate various efforts to resolve them in a flexible way.

2. Research Method

This research is a literature study. Research is done by studying literature related to research problem. In this case, the authors collect the necessary data through various literatures, whether books or writings in the form of journals and other writings relevant to this writing.

3. Findings and Discussion

Based on literature review, the crisis of mathematics learning that is still encountered to date is that students are easy to forget with the material that has been studied. One reason is that students prefer to learn by rote and teachers also sometimes ask students to memorize primarily related to formulas. This condition, of course, causes the achievement of the objective of mathematics education which is to develop students' reasoning so that students can be trained in their way of thinking, being consistent, active, creative, independent and having problem solving ability, which is very useful in the life of society.

Ausubel states that "... if the learner's intention is to memorise it verbatim, i. e., As a series of arbitrarily related word, both the learning process and the learning outcome must necessarily be rote and meaningless " [1]. Based on Ausubel's opinion, learning by rote both the process and the outcome will not be meaningful.

The problems appear from learning by memorizing are the students of great opportunity can not answer a different matter with the given example, because the mathematical material is not a separate knowledge but is a knowledge intact and mutually related to each other, then every students must master some basic concepts and skills first. After that, students should be able to tie your new knowledge with their existing knowledge that there is a learning process meaningful (meaningful learning).

Rote learning (rote learning) will occur if the students are not able to associate new knowledge with old knowledge. This is in accordance with the theory of information processing learning and memory [2] as stated in Figure 1 below.

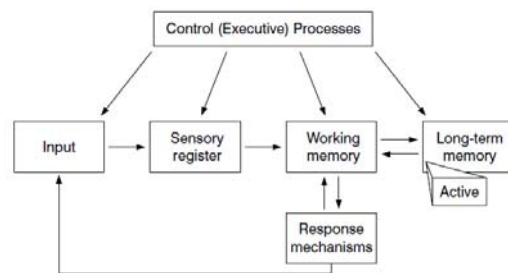


Figure 1. Information processing model of learning and memory.

While information is in WM, related knowledge in long-term memory (*LTM*), or permanent memory, is activated and placed in the WM to be integrated with the new information.

The learning crisis is certainly not sustainable. It is the task of the teacher to facilitate his students so that they can easily associate their new experiences or knowledge with relevant knowledge already in their minds or in their cognitive structure. The teacher must also change his role, no longer as the ultimate authority holder of the science he teaches in the classroom. The teacher can no longer feel the greatest in the class and the student is considered to know nothing. Instead, teachers become facilitators who guide students toward the formation of knowledge by themselves.

The learning of mathematics as a meaningful activity refers to the process of

attributing personal meaning to the action, methods, and results involved [3]. Meaningful mathematical learning should emphasize the view that students are human beings who have the potential to learn and grow. Students must be active in the search and development of the knowledge they have. Mathematics is an activity that we do everyday that includes patterns, sequences, structures or forms, and relationships between them. The material in mathematics learning is arranged regularly in a logical and hierarchical sequence, meaning that the taught mathematical topic is a prerequisite for the next topic. Someone will be easier to learn something when learning is based on what has been known by that person. Therefore, to learn a new mathematical topic, past learning experiences from a person will influence the learning process of mathematics. Through mathematics learning, students are expected to be active in learning, active discussion, daring to express opinions and accept opinions of others, and have high confidence.

Elementary teacher can take several steps to increase opportunities for all children to be successful in learning mathematics [4].

- Safe intellectual environment. When children feel confident that intuitive responses and incorrect answers may lead to important findings, they are more likely to enter into discussions of concepts and take intellectual risks when solving problems.
- Math strands. Often children equate mathematics with arithmetic. Emphasize other important strands such as patterns, geometry, measurement, functions, statistics, and probability, which offer alternate entry points for children to excel.
- Problem solving. Start lessons with a problem and introduce the concepts of procedures needed to solve it.
- Manipulative models. Use manipulative models when appropriate to explain mathematics concepts and procedures.
- Calculators. The problem solving performance of students, particularly girls, improves significantly with ready access to calculators because students are freed to concentrate on higher level aspects of the problem instead of routine calculations.
- Cooperative groups. Use small-group work when developing concepts and solving problems.
- Literacy skills. Have students keep learning logs and write about solutions to problems. Writing helps students reflect on their

learning and construct mathematical meaning.

- h. Process orientation. The process involved in getting an answer may be at least as important as the answer itself.
- i. High expectations. Maintain high standards for every child regardless of or cultural background. Distribute response opportunities among the class entire class as evenly as possible.
- j. Importance of mathematics. Celebrate the contribution of mathematics to our society. Integrate mathematics concepts and procedures into other curriculum area such as science, social studies, art, and music.
- k. Attitudes. Before you begin teaching, take stock of your own attitude toward mathematics and mathematics teaching.

Efforts for meaningful mathematics learning is by applying innovative learning. The parameters to be regarded as "innovative learning" should at least adopt the following ten principles [5]. The ten principles are as follows.

- a. Student-centered: emphasis on active student learning rather than students record, memorize.
- b. Multiple intelligence: accommodate all potential and learning aspects, because students have multi and varied intelligence.
- c. Holistic education: students regard as being learning intact.
- d. Experiential learning: promoting meaningful learning experiences.
- e. Problem based learning: open space for problem solving.
- f. Cooperative learning: an opportunity to learn through collaboration.
- g. Contextual teaching and learning: learning from the open space real life. Constructivist teaching and learning: open meaningful learning responsibly as an autonomous learner.
- h. Metacognitif: open space for meaningful learning through the process.
- i. Think as a whole, a systemic and systematic.
- j. Learning with understanding: promoting meaningful learning With a deep understanding.

One of the innovative learning approach is open-ended approach (open-ended approach). This learning approach provides an opportunity for students to "experience infinding something new in the process" [6]. This approach is appropriately used to evaluate the process, because in this case students are required not only to find solutions to the problem, but also to

explain how they came to the solution, and why they used a certain way to solve the problem.

The strategy can be used in the model of learning mathematics-oriented problem solving open-ended math can adopt a common Problem Based Learning strategy, for example starting with:

- a. Filed a problem (*Problem posing*). Organize questions and the problem is very important and must be personally endeavored to be meaningful for student. Problems should be contextual, ie relating to the situation real life and authentic, avoiding simple answers/guesses (immediate solution), and allows the existence of various solutions and A reasonable solution.
- b. Focus the linkages between disciplines. Review and solve problems open-ended mathematics as a whole with multi-perspective and multi principles discipline. From here the ability to think creatively and critically (creative and critical Thinking) is expected to be well developed.
- c. Authentic investigation. The real investigation mathematics problems. This can be started by analyzing and defining problems, developing hypotheses, collecting and analyzing information, doing experiments (if needed), making inferences and formulating Various possible solutions and their solution procedures, and merefleks fish, interpret and evaluate return.
- d. Work presentation. Presenting and demonstrating various works, for example in the form of problem solving reports, debate transcripts, physical models, video, or computer program, which represents various troubleshooting mathematics that has been done.
- e. Cooperation. Motivate to learn in the form of collaborative work for example in pairs or groups (between 4-8 students) in solving the problems it faces. It can provide motivation to continuously engage in complex tasks to develop social skills.

From this, the open-ended approach promises an opportunity for the student to investigate the various strategies and ways he believes in accordance with the ability to elaborate the problem. The goal is no other is that the ability to think mathematics students develop optimally and on the same time the creative activities of each student are communicated in the teaching and learning process.

4. Conclusion

The crisis of mathematics learning that are still encountered to date are easy to forget students with the material already studied. One reason is that students prefer to learn by rote and teachers also sometimes ask students to memorize primarily related to formulas. The main component that can overcome the crisis is the teacher. Teachers must play a facilitator who guides students toward the formation of knowledge by themselves. Teachers can apply innovative mathematics learning. There are ten principles of innovative learning is student-centered, multiple intelligence, holistic education, experiential learning, problem based learning, cooperative learning, contextual teaching and learning, constructivist teaching and learning, metacognitif, think as a whole, a systemic and systematic learning with understanding. By applying innovative mathematics learning students are expected to be more creative and independent.

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THE RELIGIOSITY MODEL FOR RELIGION CLASS IN SANATA DHARMA UNIVERSITY

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Abstract

The research investigates the model of religion class in Sanata Dharma University. The reasoning and the design of the religion class or religious education (RE) in Sanata Dharma University is the issue of the study. It is a qualitative study and the data gathering method is interview. Sanata Dharma has been implementing a religiosity model for the RE as of odd semester 2015. The religiosity model replaces the religious study model. The religiosity model concerns with the personal dimension. The turn to the religiosity model is triggered by the striking weakness of the religious study model in which the RE was trapped into the transfer of knowledge and the study of dogma in each religion. The RE is considered to play an important role in fostering one of the core value in Sanata Dharma, *to love diversity*. A great of importance is attached to this value due to the diversity of religious confession in Indonesian and the increasing number of intolerance incidents. An inter-religious dialogue is the target of the religiosity model along with the making of religious identity. The learning method in the RE is reflection. Through reflection the students are exposed to the existential questions such as happiness and misery. The attractiveness and the relevance of the RE course count on the discovery of the meaningfulness through reflection. The religious identity is considered to be established as long as they can apply the religious tradition to shed light on the experience. In addition, the sharing model is also employed in the learning process. The sharing model acts out the nature of the religiosity model as faith communication. The design of religiosity based religion class does not address the problem of religious illiteracy.

Keywords: inter-religious dialogue, personal, reflection, religiosity, religious illiteracy, sharing, to love diversity

1. Introduction

In the Law 12/2012 on Higher Education, it is mentioned that religion is one of the required subjects in the higher education. The law does not mention in detail the implementation of the religious education (RE) on higher education. It is different from the regulation in basic and secondary education, in which the implementation is further mentioned. The joint decree No 4/U/SKB/1999 issued by the minister of Education and Culture and Minister of Religious Affair requires the school to provide the RE for the students according to their own religious confession. The model of religion class in basic and secondary education is mono religious education. The segregation of students on the basis of religious confession is typical of mono religious education. It is the conventional model of RE in Indonesian. In addition, Education Law 20/2003 requires that the RE is delivered by the teacher with the same religious confession with the pupils. The law strengthens the policy of mono religious education for the RE.

The higher education is not anymore under the Minister of Education. The higher education

is subordinate to the Minister of Research and Technology. Therefore, it is possible to arrange a religion learning other than mono-religious education in the higher education. Parker [1] promotes the coexistence or religious tolerance as the goal of RE in Indonesian due to the diversity in religious confession. Is mono-religious education able to address such issue? The seeking of model other than conventional one to address such issue is urgent.

In mono-religious education model, the class is segregated on the basis of religious confession. The multi-religious education introduces an integrated class. The students are not segregated on the basis of religious confession. Actually mono-religious and the multi-religious model shares the same goal of building religious identity [2]. However each takes a different path. The mono-religious education promotes religious identity through the exposure of the religious tradition. It is a within-faith education. In the multi-religious education, the building of religious identity counts on a dialogue. The multi-religious education is an inter-faith education.

In addition, the multi-religious education enables an inter-religious dialogue due to the

diversity of students' religious confession. In the mono-religious education, the inter-religious dialogue is not possible because of the homogeneity of the religious confession in the class. The multi-religious education is able to do more than mono-religious one.

Sometimes the term multi-religious education in the literature is used undistinguishably with the term inter-religious education [3]. However Hermans [4] differentiates between both. In the multi-religious education, the disposition of the learner is neutral toward all religious confessions including his own. In the inter-religious one, the learner has a personal relationship toward his own religious confession.

Sanata Dharma University is a religious affiliated private school. The Societas Jesu, one of the prominent Catholic religious orders, runs the school. The religious affiliation of the school does not imply the introduction of the mono-religious education. Sanata Dharma implements a multi-religious education. The integrated class is typical for multi-religious education. The diversity of religious confession among the students is the context of Sanata Dharma. Sanata Dharma declares the diversity as the core value. Actually Sanata Dharma confesses four core values and one of which is diversity, precisely to love diversity.

It is a common opinion that RE in the higher education is only an additional subject although the government declares that the RE is a compulsory subject. The students tends to play down the subject. It is the challenge of the RE in the higher education. The necessity of the RE conceptually does not get along with the students engagement factually. The attractiveness and relevance are the noteworthy aspects in designing the RE.

Further, Hadir [5] and Noer [6] diagnoses that the problem of religion learning in Indonesian school is the stress on the intellectual aspect and the ignorance of the affective and psychomotoric ones. The stress on the cognitive aspect is a common critique toward the RE. Furthermore, the RE in Indonesia fails in fostering the tolerance spirit among the students and according to Arham et. al. [7] the root of the problem is partly the lack of critical, reflective, and constructive model of learning in dealing with the religious teaching. Raihani [8] promotes the incorporation of tolerance in the RE in which the exposure of other religions is incorporated in the RE. The increasing intolerance rate is a threat to Indonesian which is steep in diversity [9]. The RE is expected to address this problem.

As a religious affiliated university, Sanata Dharma admits the necessity of the RE. The small credit of the RE course does not necessarily mean the minor role. The student earns 2 credit for enrolling the RE course. The design of RE is subject to change. Several times the university changes the design of RE course. The latest change occurred on 2015. Since odd semester 2015, Sanata Dharma has been implementing a new model of the RE.

The research investigates the reasoning behind the implementation of new model and the design as well. "What is the reasoning underlying the latest changes of RE model and the design as well in Sanata Dharma?" is the research question in this paper. The focus of the research is the response of the new model to the challenges and considerations previously mentioned. In addition, the expectation behind the changes is also mentioned in this research.

2. Method

The research is a qualitative one. The data gathering method is interview. The interviewees are the persons who are responsible for the policy making of religion class in Sanata Dharma. In addition, the interviewees know the ins and outs of the tradition and the practice of RE in Sanata Dharma. The number of respondents are three. The 1st respondent is the 1st Rector Deputy of Sanata Dharma University. The 2nd respondent is the coordinator of MPK (*Matakuliah Pengembangan Kepribadian*). The administering of the RE in Sanata Dharma is arranged by MPK. The 3rd correspondent is the Coordinator of RE Modul Team. The three interviewees are considered to be the key informants in this research.

3. Results

As of odd semester 2015, Sanata Dharma have been implementing religiosity model in RE. The religiosity model replaces the religious study model. In the religious study model the students are exposed to the authentic source of religions. Sanata Dharma invited the lecturers from different religious confession and provides the students with the opportunity to recognize the other religions from the authentic and reliable sources. The idea underlying this model is the spirit to establish an inter-religious dialogue.

However, the religious study model has a striking weakness. According to the 2nd and 3th respondents, the question raised by the students were artificial and the learning was trapped in a transfer of knowledge. The 1st respondent added that the religious study model fell to the learning

of dogma in each religion. The common critique toward RE is the stress on the cognitive aspect. The religion study model repeated the common mistakes in the RE. It is necessary to go beyond the the model of knowledge transfer in the RE.

Religiosity model is considered to be able to go beyond the knowledge transfer model in the RE. The religiosity model proposes a faith communication [10]. The religiosity model provides the student the opportunity to deal with their religious experience. The diversity of religious confession in religion class is an asset to establish an inter-religious faith communication. In the mono religious education, the faith communication is also possible but it is an intra-religious faith communication not inter-religious one.

One of the pioneers of religiosity model in Indonesia is Fr. Mangunwijaya, a multi talented person. Mangunwijaya [11] differentiates between religiosity and religion. The differentiation does not necessarily mean a polarization. Mangunwijaya admits the necessity both religion and religiosity. Religion concerns with institutional and judicial aspect. Religiosity concerns with the spirituality in which the person instill a personal and intimate relationship with God and others.

Groome [12] emphasizes that one of the constitutive character of religious education in all religions is the encouragement of the pupils toward the ultimacy. The human is able to bring together all his experience toward the ultimacy. It is what "to be religious" mean. The human experience is at the same time the encounter with God. To be religious means to have in-dept relationship with God in the human experience. Groome emphasizes the personal dimension of the the religion. The personal dimension is so often ignored in the RE. The religiosity model embraces the personal dimension of religion in the RE. Otto [13] characterizes the religious experience as *mysterium tremendum* and *fascinans*. In the religious experience the man trembles (*tremendum*) in an awe (*fascinans*) before God. Otto also stress the personal aspect of religion in which the affection plays an important role in the relationship with God.

The 3rd respondent stresses the personal dimension of religion. It is necessary to explore the religious preference in order to go beyond the parental heritage reasoning. It is not enough to think that the religious confession as something given by the parents. A religious confession is more than a parental heritage. The personal religious preference is the target of the religiosity model in Sanata Dharma. To be critical means to have in-dept relationship and understanding. The

awe and the fascination toward religious confession should be seeked. Throug this way, the parental heritage motive will be replaced by a personal preference.

Although Sanata Dharma is a Catholic university, it is believed that the introduction of religiosity model does not do away the catholic identity of the university or of most students. The 1st respondent said that the catholic identity making is not solely attributed to the RE. In the RE, the students should find out the meaningfulness of their own religious confession. The meaningfulness of RE consist in its relevance to the students' life.

According to the 3rd respondent, the meaningfulness of RE counts on the exposure of existential questions to the students. The students are exposed to the topic such as happiness and misery. The reflection method is employed to deal with such topics. The starting point of the reflection is the students' own experience. The personal aspect features in the learning model in the RE. The approach employed in the religiosity model is not deductive but inductive.

The reflection method is not typical for the RE. Sanata Dharma in recent years has been promoting Ignatian Pedagogy. Ignatian Pedagogy is a paradigm not a method or procedure. Reflection is the main element of the Ignatian Pedagogy [14]. The reflection is the search of meaning from the human experience. In the Ignatian Pedagogy, the reflection is the search of meaning from the learning process. The 1st respondent said that the reflection is the main part of the learning process in Sanata Dharma. The university is on the progress to get into the habit of reflection in the the whole class learning.

According to Boyer *et al* [15], the reflection is able to contribute to the transformative learning. In the religiosity model, the goal of learning is the transformation not the apologetics [16]. What is apologetics? Apologetics means the art of defending the religious teaching from the objection and critique. The religiosity gives priority to the transformation of life rather than the apologetic skill. Therefore, the reflection is a suitable method in the religiosity model. Further, the reflection is of great use in the learning because it facilitates the learner to discover the meaningfulness of the learning experience [17]. The reflection could address the problem of attractiveness and relevance of the RE.

The task of the university is not only transferring scientific knowledge and technical skill, but also building the character. The 1st respondent put a hope on the RE to address the last task. The latest changes in RE is the measure

to serve for building the character. It is expected that the RE is capable of transferring the values to the students. Without the transfer of values, the character building is not possible.

The 1st and the 3rd respondent emphasize the necessity of students' own religious tradition in reflecting the given topics. The starting point of the reflection is students' own experiences. The meaningfulness of the experience is sought in the light of the students' own religious tradition. Through this way, the students are not detached from their religious confession. The students are led to in-depth and personal relationship with their own religious confession. The religious identity is established through in-depth and personal relationship with the religious confession.

The 3rd respondent said that the sharing model is employed also in the RE. A group or class sharing is organized to provide the students an opportunity to unveil their personal reflection. The sharing model acts out the concept of religiosity model as faith communication. The diversity of students' religious confession enables an inter-religious faith communication. It is expected that the religiosity model is able to encourage the students to an inter-religious dialogue. It is not a dialogue of religious knowledge but dialogue of the personal religious experience. The religion has an inspirational power. The sharing of interreligious faith the inspirational power of each religion. It is not a matter of religious conversion.

In addition, the turn to religiosity model has something to do with the university core values. Sanata Dharma confesses four core values and one of which is to love diversity. The religiosity model is designed to live up the value *to love diversity*. The religiosity model does not abolish the religious diversity but maintain it. The 1st respondent hopes that in RE the students find out the shared religious values and do not focus on the gap of difference among the religions. The religiosity model is a response to the problem of increasing intolerance of the society. To instill religious tolerance, the religiosity model fosters the spirit of coexistence. The diversity is the context in Indonesian and Sanata Dharma as well. The religiosity model takes into account the diversity of religious confession among the students.

The latest changes of RE model in Sanata Dharma accentuates the personal dimension of religion and the less emphasis on the cognitive aspects leave the problem of religious illiteracy. The 2nd respondent argues that addressing the problem of the religious illiteracy is not the task of higher education. It is the task of basic and

secondary education. In addition, the 2nd respondent argues that the religious knowledge could be obtained by the students autodidactically due to the availability of theological texts in the Sanata Dharma libraries and in the internet. The 3rd respondent only affirms the problem of religious illiteracy among the students especially the Catholic students. The problem is unsolved.

4. Conclusion

The introduction of the religiosity model in RE addresses some issues regarding the learning process, personality building and social problem in the society. The previous model was not able to go beyond the model of knowledge transfer. The religiosity model is implemented to address the weakness of the religious study model.

The religiosity model features the personal dimension of RE. The students are exposed to the existential questions and then asked to do reflection. The inductive approach is employed in the RE. The starting point is the students' personal experience regarding the happiness and misery. The meaningfulness of their experience is dug out in the light of students' own tradition. Through this way, the personal relationship with students' own religious confession is established. The religious identity consists in such personal relationship. The attractiveness and the relevance of the course count on the discovery of the meaningfulness of their religious experience.

The reflection method is strongly recommended in the RE course. The university concerns on the development of Ignatian Pedagogy in which the reflection plays an important role. The implementation of reflection acts out the Ignatian Pedagogy as the learning orientation in Sanata Dharma. The sharing method is also employed in the RE. The sharing corresponds to the nature of religiosity model as faith communication. It is interreligious faith communication.

The religiosity model serves for broader goal. For the university, the religiosity model acts out the value *to love diversity*. The fostering of this value is the response to the diversity context of Indonesian and Sanata Dharma as well. Further, the university is tasked to instill the spirit of coexistence due to the increasing number of intolerance incidents in recent years.

The problem of religious illiteracy is not solved in the design of RE in Sanata Dharma. The design of religiosity model in Sanata Dharma does not address this problem. The personal dimension of the religion obtains a

considerable portion than the cognitive dimension. The transfer of value is preferred to the transfer of knowledge in designing the religiosity model in the RE.

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PROTOTYPE OF WALKING AIDS AND DETERMINANT OF QIBLA DIRECTION FOR BLIND BASED ON MICROCONTROLLER ATMEGA328

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Abstract

This paper presents a navigation aid for the blind, which used microcontroller system that is equipped with a proximity sensor, sound database, and magnetic sensor. The purpose of research of prototype design of walking aids and determinant of qibla direction is to expand navigational aids use sound recognition and determinant of qibla direction tah easy and effective to be operated. This aid is portable and gives information to the user about urban walking routes to point out what decisions to make. This research uses Research and Development (RnD) research method with measurement indicator that is the distance of obstacle object to prototype position and the direction of the wind to determine the position of Qibla. The stages of research in this paper include 3 stages; First, design and testing of ultrasonic sensors; Second, design and testing of magnetic sensors; Last, record and testing data basic of sound distance and qibla determinant. The results obtained in this study include, prototype distance detection has the highest error rate of 2.5%. Distance measurements start at 25 cm, 50 and proceed with an additional interval of 50 cm. As for the positioning of the Qibla, the prototype can detect Qibla at 294° angle to match the place of data collection. Angle 294° in accordance with the range of Indonesian qibla position which is at 290°-295° angle. Conclusion in this research that is, prototype can be used as walker tool for blind with warning indicator in the form of sound distance obstacle to user of prototype. In addition, this prototype can also determine the direction of Qibla so that it will make it easier for people with blind Muslims to perform prayer worship.

Keywords: blind, distance, prototype, qibla.

1. Introduction

The sense of sight is one vital source of information for human beings. Through the sense of sight, humans can receive a variety of information around them and facilitate the mobility from one place to another. Meanwhile, for persons with visual impairment or commonly known as blind, information in their surrounding is unacceptable.

Navigation aids like walking stick is still used by the blind even today [1]. However, the use of blind stick as a navigational aid has many limitations. One of the limitations is that it does not provide information to the user of the situation and conditions beyond the reach of the stick.

Current technological advances make some electronic navigation aids [2] have been created to help the visually impaired. Most of the common electronic navigation aids are made using ultrasonic sensor [3]. The ultrasonic sensor

is a proposed electronic aid that senses the obstacles in its path by continuing to transmit ultrasonic waves. As obstacles appear around him, ultrasonic waves will soon be reflected on the system. Then, the ultrasonic receiver senses this ultrasonic wave [4].

Electronic navigation aids using current ultrasonic sensors generally use vibration and alarm output indicators. However, in this paper, the suggested navigation system involves a microcontroller with speech output. It is a self-contained portable electronic unit. In addition, it equipped with a compass sensor. This is because, for the blind, knowledge of the direction of the wind is very useful, such as understanding the direction, projecting the place to be directed from where they are located, and determine the direction of Qibla when performing prayers for Muslims with visual impairment [5].

2. Method

Research about prototype design of walking aids and the determinant of Qibla direction for blind based on microcontroller ATmega328 at Electrical Engineering Laboratory, Faculty of Engineering, Semarang State University. This research uses Research and Development method.

This research stage is divided into 3. The first research phase is planning and testing ultrasonic sensor. Then the second stage of research is planning and testing magnetic sensors. The last stage of research is planning, manufacturing, and testing distance voice databases and determining the Qibla.

Design and testing of ultrasonic sensor

Planning at this stage is done so that distance measurement system can provide information on the existence of the object in front of the wearer precisely and accurately. The sensor used to measure distance is the SRF08 ultrasonic sensor. The SRF08 sensor principally works as the transmitter emits a beam of ultrasonic waves with a frequency of 40 KHz and then measured the time required until the arrival of the reflection of the object [6].

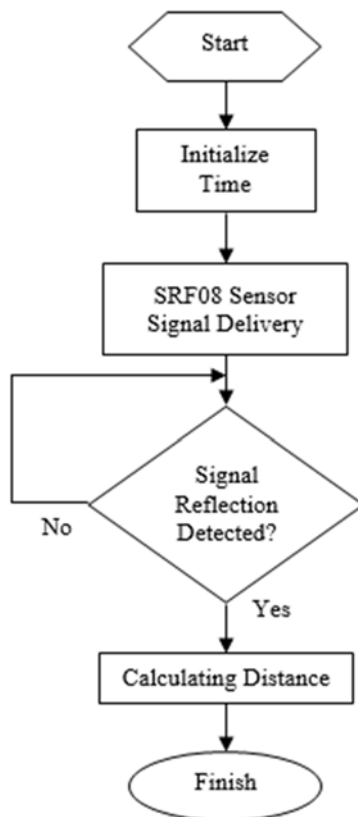


Figure 1. Flowchart How Sensor SRF08 Principally Works

Design and testing of magnetic sensor

Planning at this stage is done to determine the angle of the wind direction. The sensor used to determine the angle of the wind direction is the HMC5883L sensor. This sensor uses I2C interface, in which it has maximum output rate up to 160 Hz (Single Measurement Mode) and output rate 0.75 Hz up to 75 Hz (Continuous Measurement Mode) and has been equipped with internal ADC 12 bits therefore the output from the sensor has been shaped digital signal [7].

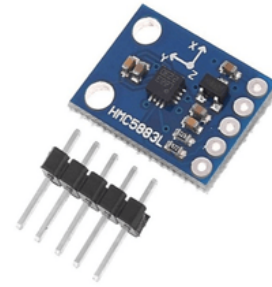


Figure 2. Sensor HMC5883L

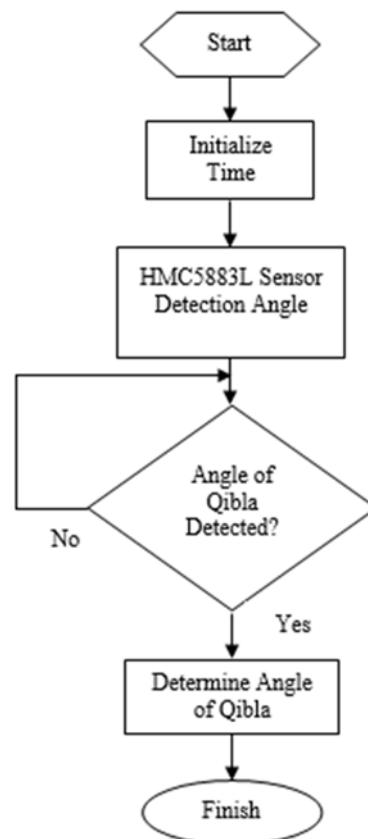


Figure 3. Flowchart How Sensor HMC5883L Principally Works

Record and testing data basic of distance voice and qibla determinant At this stage the

process of recording and sound testing will be integrated in the prototype system. Sound will provide warning of the distance of hitch detection and direction of qibla direction when prototype is used. Here is voice data collection of hitch detection:

Table 1. Sound Warning Data on Distance

No	Distance (cm)	Warning Sound
1.	20-30	Stop, 25 more cm there is a hitch in front of you
2.	40-60	Stop, 50 more cm there is a hitch in front of you
3.	90-110	Danger, 1 more meter there is a hitch in front of you
4.	140-160	Beware, 1.5 more meters there is a hitch in front of you
5.	190-210	Be careful, 2 meters more there is a hitch in front of you
6.	240-260	Be careful, 2.5 more meters there is a hitch in front of you
7.	290-310	Be careful, 3 more meters there is a hitch in front of you
8.	340-360	Be careful, 3.5 more meters there is a hitch in front of you
9.	390-410	4 meters away there is a hitch in front of you
10.	440-460	4.5 meters away there is a hitch in front of you

The sound database is stored in Mini DFPlayer. To be able to call the sound according to the distance measurement, therefore the programs are as follow:

```
#include "Arduino.h"
#include "SoftwareSerial.h"
#include "DFRobotDFPlayerMini.h"
#include <NewPing.h>

#define TRIGGER_PIN 9
#define ECHO_PIN 8
#define MAX_DISTANCE 200
NewPing sonar(TRIGGER_PIN, ECHO_PIN, MAX_DISTANCE);
SoftwareSerial mySoftwareSerial(2, 3); // RX, TX
DFRobotDFPlayerMini myDFPlayer;
void printDetail(uint8_t type, int value);

void setup()
{
  mySoftwareSerial.begin(9600);
  Serial.begin(115200);

  Serial.println();
  Serial.println(F("DFRobot DFPlayer Mini Demo"));
  Serial.println(F("Initializing DFPlayer ... (May take 3-5 seconds)"));

  if (!myDFPlayer.begin(mySoftwareSerial)) {
    Serial.println(F("Unable to begin:"));
    Serial.println(F("1. Please recheck the connection!"));
    Serial.println(F("2. Please insert the SD card!"));
    while(true){
      delay(50);
    }
  }
  Serial.println(F("DFPlayer Mini online."));

  myDFPlayer.volume(20); //Set volume value. From 0 to 30
  //myDFPlayer.play(1); //Play the first mp3
}

void loop()
//2 == 30 cm
//3 == 50 cm
//4 == 1.5 m
//5 == 1 m
//6 == 40 cm
//7 == 1.2 m
//8 == Daret
// 9 == utara
// 10 timur
Serial.println(sonar.ping_cm());
if(sonar.ping_cm() > 25 && sonar.ping_cm() <=35) {myDFPlayer.play(2); delay(3000);}
if(sonar.ping_cm() > 45 && sonar.ping_cm() <=55) {myDFPlayer.play(3);delay(3000);}
if(sonar.ping_cm() > 115 && sonar.ping_cm() <= 125) {myDFPlayer.play(6); delay(3000);}
if(sonar.ping_cm() > 95 && sonar.ping_cm() <= 105) {myDFPlayer.play(4);delay(3000);}
//myDFPlayer.play(10);delay(6000);}
}
```

```
void printDetail(uint8_t type, int value){
  switch (type) {
    case TimeOut:
      Serial.println(F("Time Out!"));
      break;
    case WrongStack:
      Serial.println(F("Stack Wrong!"));
      break;
    case DFPlayerCardInserted:
      Serial.println(F("Card Inserted!"));
      break;
    case DFPlayerCardRemoved:
      Serial.println(F("Card Removed!"));
      break;
    case DFPlayerCardOnline:
      Serial.println(F("Card Online!"));
      break;
    case DFPlayerPlayFinished:
      Serial.print(F("Number:"));
      Serial.print(value);
      Serial.println(F(" Play Finished!"));
      break;
    case DFPlayerError:
      Serial.print(F("DFPlayerError:"));
      switch (value) {
        case Busy:
          Serial.println(F("Card not found"));
          break;
        case Sleeping:
          Serial.println(F("Sleeping"));
          break;
        case SerialWrongStack:
          Serial.println(F("Get Wrong Stack"));
          break;
        case CheckSumNotMatch:
          Serial.println(F("Check Sum Not Match"));
          break;
        case FileIndexOut:
          Serial.println(F("File Index Out of Bound"));
          break;
        case FileMismatch:
          Serial.println(F("Cannot Find File"));
          break;
        case Advertise:
          Serial.println(F("In Advertise"));
          break;
        default:
          break;
      }
      break;
    default:
      break;
  }
}
```

3. Result

In this paper, prototype design uses Arduino Nano V3 microcontroller, SRF08 ultrasonic sensor to measure the distance, and HMC5883L compass sensor is used to determine the angle of the wind direction. While the sound warning database is stored in Mini DFPlayer with sound output on a speaker.

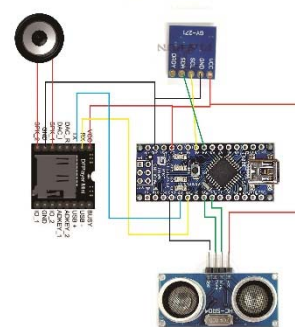


Figure 4. Prototype Schematic Diagram

The measured distance is calculated on the basis of travel time. The formula to calculate the distance is shown below.

$$\begin{aligned} s &= \text{Distance (meters)} \\ \text{Speed of Sound} &= 340 \text{ m/s} \\ t &= \text{Travel time (second)} \end{aligned}$$

$$s = \frac{\text{Speed of Sound} \times t}{2}$$

The ultrasonic waves travelled to and from the object hence the whole distance is divided by two.

Information:

Table 2. The Result of Prototype Distance Calculation

No.	Actual Distance (cm)	Measured Distance (cm)	% Error	Warning Sound
1.	25	25	0	Stop, 25 more cm there is a hitch in front of you
2.	50	50	0	Stop, 50 more cm there is a hitch in front of you
3.	100	100	0	Danger, 1 more meter there is a hitch in front of you
4.	150	148	1,3	Beware, 1.5 more meters there is a hitch in front of you
5.	200	205	2,5	Be careful, 2 meters more there is a hitch in front of you
6.	250	244	2,4	Be careful, 2.5 more meters there is a hitch in front of you
7.	300	301	0,3	Be careful, 3 more meters there is a hitch in front of you
8.	350	348	0,5	Be careful, 3.5 more meters there is a hitch in front of you
9.	400	410	2,5	4 meters away there is a hitch in front of you
10.	450	457	1,5	4.5 meters away there is a hitch in front of you

The result of measurement which is equipped with warning sound to distance is shown in table 2. Then Figure 4 shows the graph between actual distance and measured distance. From 10 experiments with different distances, the highest error rate obtained is 2.5%. Distance measurements start at 25 cm, 50 and proceed with an additional interval of 50 cm.

The results of the measurements obtained further are the angles of the direction of the wind. This measurement aims to detect the direction of qibla using prototype with the output of the voice warning position facing. The direction of Qibla direction in Indonesia is in the range 290°-295°. At the time of measurement, the direction of the qibla shows the angle of 294°.

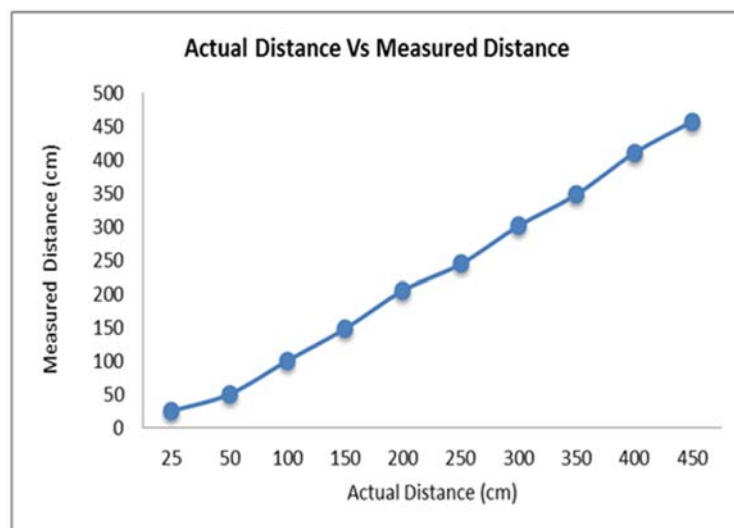


Figure 5. Graph Between Actual Distance and Measured Distance

Table 3. Data of Results of Measurement

No.	Reading angle of sensor	Angle of Qibla	Difference	Possition Overlooking	Warning Sound
1.	180°	294°	114°	South	You are facing the south
2.	90°	294°	204°	East	You are facing the east
3.	360°/0°	294°	66°	North	You are facing the north
4.	270°	294°	24°	West	You are facing the west
5.	294°	294°	0°	Qibla	You are facing the south

4. Discussion

Prototype of walking aids and determinant of qibla direction can be used for people with visual impairment as navigation aids. This prototype is able to know the existence of obstacles on their walk with warning indicator in the form of sound distance obstacle to its user. In addition, this prototype can also determine the direction of Qibla.

The results obtained in this study include, prototype distance detection has the highest error rate of 2.5%. Distance measurements start at 25 cm, 50 and proceed with an additional interval of 50 cm. As for the positioning of the Qibla, the prototype can detect Qibla at 294° angle to match the place of data collection. Angle 294° in accordance with the range of Indonesian qibla position which is at 290°-295° angle.

5. Conclusion

This prototype can be one of the tools for people with visual impairment. The ability of the prototype that can determine the direction of the Qiblah makes it easy for people with visual impairment of Muslims when they will perform the prayers.

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STUDENTS' ACTIVENESS IN LEARNING SOCIOLOGY OF CROSS-MAJOR IN 11th GRADE IN SMA N 1 LUBUK ALUNG, WEST SUMATERA

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Abstract

In curriculum 2013, there are two programs that should be implemented, both are particular major and cross-major. Social science major (IIS) and cross-major of sociology study with the same teacher, the same material, the same number of lessons, and teachers have taught by the same methods. However, when learning sociology subject, 11th grade students in cross-major of sociology are more active than 11th grade students in social sciences major (IIS). Supposedly, the students in Social Sciences Major (IIS) are more active, know and understand the sociology subject. This study aims to explain the factors that led to student being active in sociology learning of cross-major in 11th grade in SMA N 1 Lubuk Alung. This study is analyzed by behavioristic theory of Skinner. The method used in this research is descriptive qualitative with the number of informants are 35 students. The data collection is done by non-participation observation, deep interview and documentation. The results shows that students' active participation in learning sociology in cross-major is high. The factors that led to students being active in learning sociology in cross-major in 11th grade in SMA N 1 Lubuk Alung are (a) the high interest of students towards sociology, (b) learning sociology is easy to understand, (c) saturation of students towards the material count, (d) high ability of students intellectual, and (e) the ideal of the students to chose the Social Sciences in Higher Education.

Keywords: students' activeness, learning sociology, cross-major

1. Introduction

Curriculum 2013 (Daryanto, 2014) concerned with the implementation of the learning process in an interactive, inspiring, fun, challenging, motivating students to actively participate and provide sufficient space for innovation for creativity and independence according to their talents, interests, and physical and psychological developments. The learning process that is done by using a scientific approach with the assessment of learning outcomes based on processes and products. According to the legation of Indonesia government number 20, 2003 on National Education System article 12 verse (1) point (b), it states that learners are entitled to get education services in accordance with their talents, interests, and abilities. In order learners' talents, interests, and abilities are underserved, so that one of important policies in Curriculum 2013 is to give an opportunity to students to choose a group subjects (particular major) that is interested.

In accordance with the policies of the curriculum 2013, it was set particular major and cross-major (Fadillah, M; 2014). Particular major is a decision made by learners to select a

group of subjects according to their interests, talents, and abilities during the learning in high school (SMA). The aim of the particular major is to provide opportunities for learners to develop students' interests in the group of subjects in accordance with the scientific interest in universities and to develop thier interests in a particular discipline or a skill. Particular major recommended in curriculum 2013 structure are Math and Natural Science Major (MIA), Social Sciences Major (IIS) and Language/Culture Major (IBBU). Each of these majors must take group of compulsory subjects (Group A and B) and Group C subjects (subjects of particular major). Group A subjects are subjects giving more competences orienting to cognitive aspects (such as subjects of religion, civics, Indonesian, math, history, English). Group B subjects are subjects more emphasis on affective and psychomotor aspects (such as subjects of art and culture, sports, crafts and entrepreneurship). While Group C subjects are subjects related to students' interest such as Math and Natural Sciences Major/MIA (mathematics, biology, physics, and chemistry), Social Sciences Major/IIS (geography, sociology, history, economics), and Language/Culture Major/IBBU

(Indonesian and its literatures, English and its literatures, other foreign language and its literatures, and anthropology).

Cross-major is one of the Curriculum 2013 programs, which was held on the level of high school (SMA). According Permendikbud number 64, 2014 concerning on particular major in secondary education article 1, verse 4, cross-major is a subject that must be taken by learners. These subjects are outside of group of interested major. Students who come from Math and Natural Sciences Major (MIA) must take cross-major subjects in Social Sciences Major according with their interests and talents. Likewise, students who come from Social Sciences Major (IIS) and Language and Culture Major (IBBU) must choose subjects that will serve as a cross-major subjects outside of interested major subjects. The aim of implementing cross-major in the curriculum 2013 is to provide opportunities to students to study subjects they are interested but are not found in the group of interested major subjects.

The rules on the implementation of the cross-major based on Permendikbud No. 69, 2013 concerning on Basic Framework of Curriculum Structure of Senior High School states that student in 10th grade have to follow two cross-major subjects they have chosen as 6 hours of lessons. While in 11th grade and 12th grade, the cross-major subjects in 10th grade that is considered a higher value will serve as one cross-major subjects as much as 4 hours of lessons. The elements involved in the interested-major and cross-major which held by the school are as follows; (1) The principal as who is responsible of all activities; (2) The deputy principal of curriculum sector as executor of Acceptance of New Students (PPDB) and coordinator of cross-major; (3) The deputy principal of students sector as executor of New Student Reception Program (PPDB) and team members of cross-major; (4) The deputy principal of public relations sector as executor of New Student Reception Program (PPDB) and team members of cross-major; (5) The deputy principal of school facilities / infrastructure sector as a member of cross-major who serve as coordinator of human resources and facilities / infrastructure analysis; (6) Counseling and Guidance teachers as a team member of interested-major and cross-major who serve to make interested-major and cross-major questionnaire and one of the key elements in determining the selection of major; (7) Curriculum team as member of interested-major and cross-major who serve to input data of new students. In order for the implementation of

interested-major and cross-major in running as desired, it is necessary to cooperate between the committee of acceptance of new students (PPDB) and the curriculum team under the principal coordination (<http://www.lpmppjabar.go.id/artikel/153-implikasi-program-peminatan-bagi-guru-mata-pelajaran-di-sma>).

Implementation of the curriculum 2013 has already started in some schools either elementary school, junior high school and senior high school. SMA N 1 Lubuk Alung is the first high school level designated by the Education Office of Padang Pariaman District to implement the curriculum 2013 programs as well as a pilot school for other schools located around the Padang Pariaman district. For interested-major programs that are opened in SMA N 1 Lubuk Alung only Math and Natural Sciences Major (MIA) and Social Sciences Major (IIS). This is because that there are no students in SMA N 1 Lubuk Alung who choose Language and Culture Major (IBBU) when they enroll in the 10th grade. Therefore, the school do not open Language and Culture Major (IBBU).

Cross-major electoral provisions in SMA N 1 Lubuk Alung has been according with the curriculum 2013 policy that the election of cross-major must be according with students' interests, talents and abilities in the following study. Before they choose subjects that will serve as cross-major subjects, students in SMA N 1 Lubuk Alung are asked to complete a questionnaire that has been distributed by Counseling and Guidance Teachers with the command that the group of Natural Science Major (IPA) should choose subjects from outside the Natural Sciences Major (IPA), as well as groups of Social Sciences (IPS). The electing cross-major suggested by Counseling and Guidance Teachers is in accordance with students' talents and interests in SMA N 1 Lubuk Alung. In the questionnaire, there is a first choice and a second choice. Counseling and Guidance Teachers with the teachers who will teach in cross-major disseminate the importance of each field of sciences. Then, the implementation of cross-major held in SMA N 1 Lubuk Alung also has been according with the rules established by Permendikbud number 69, 2013 concerning on Basic Framework and Curriculum Structure of Senior High School.

The subjects taught in cross-major in SMA N 1 Lubuk Alung for Natural Sciences Major are Geography, Sociology, Economics, Indonesian, English and Japanese; as for Social Sciences Major are Biology, Mathematics, Indonesian, English and Japanese. The number of students

taking the cross-major subject of sociology in 11th grade are 35 students consisting of six study groups, they are, students in 11th grade of Math and Natural Sciences Major (MIA) 1 consists of 7 students, students in 11th grade of Math and Natural Sciences Major (MIA) 2 consists of 4 students, students in 11th grade of Math and Sciences Major (MIA) 3 consists of 6 students,

students in 11th grade of Math and Sciences Major (MIA) 4 consists of 5 students, students in 11th grade of Math and Sciences Major (MIA) 5 consist of 5 students and students in 11th grade of Math and Sciences Major (MIA) 6 consists of 8 students. It can be seen in the following table:

Table 1: Students Data of SMA N 1 Lubuk Alung who Choose Cross-Major School Year 2014/2015

Cross-Major of 10 th Grade		10 th Grade	Math and Natural Sciences Major	Social Sciences Major	Language and Culture Major
	a.	Amount of rombels	7	2	0
	b.	Option of cross-major subjects	Students	Students	
	1.	Mathematics		26	
	2.	Biology		18	
	3.	Physics			
	4.	Chemistry			
	5.	Geography	28		
	6.	Sociology	41		
	7.	Economy	119		
	8.	History			
	9.	Indonesian and its literatures			
	10.	Foreign language and its literatures	230	65	
	11.	Other language (Japanese)	42	21	
Cross-Major of 11 th Grade		11 th Grade	Math and Natural Sciences Major	Social Sciences Major	Language and Culture Major
	a.	Amount of rombels	6	3	0
	b.	Option of cross-major subjects	Students	Students	0
	1.	Mathematics			
	2.	Biology		75	
	3.	Physics			
	4.	Chemistry			
	5.	Geography	15		
	6.	Sociology	35		
	7.	Economy	81		
	8.	History			
	9.	Indonesian and its literatures	6	1	
	10.	Foreign language and its literatures	36	0	
	11.	Other language (Japanese)	31	6	

Source: Data of students who take cross-major in 2014/2015 from Vice Curriculum

The author chose cross-major of sociology of 11th grade due to that in the learning process when teacher held discussions, it is seen that students in cross-major are more active than Social Sciences Major. Not only as holding discussion students of cross-major are active, but also when teacher repeat previous matter, and when they are welcome to ask questions and give relevant examples of matter, they are always scrambling to raise their hands. This has led the author to examine more deeply about the students' active participation in learning

sociology of cross-major in 11th grade in SMA N 1 Lubuk Alung.

In order to obtain first data in this study, the author conducted interview with one of teachers of the Sociology subject at SMA N 1 Lubuk Alung namely Mrs. Mulyeni S.Pd. Based on her explanation, that the 11th grade students of cross-major of sociology are more active than 11th grade students of Social Sciences Major. Based on observations on March 16, 2015 until May 16, 2015 it is seen in the learning process when the teacher explained the lesson, many students who asked questions about the subject matter. Then,

when the teacher ordered them to discuss, it was seen by the author when they were discussing, they were enthusiastic to do tasks assigned by the teacher. Each of them who is ready to do tasks rushes to perform the results of discussion to the class. When the group perform the results of discussion to the class, each group also seemed enthusiastic to give opinions and oppose groups performing.

Yet, another case about 11th grade students in Social Sciences Major (IPS) 2 that in the same material, the same teacher, the same learning methods, the same resources and the same learning materials were also given by sociology teacher in 11th grade students in Social Sciences Major (IPS) 2. However, when discussion took place, they are not same as students in cross-major who are scrambling to perform discussion. When they were instructed by the teacher to make assignments, analyze images and cases relating to the subject matter, they instead cheat their friends, make a noise, and go out of the classroom again and again. When they are asked whether are ready or not to do task that has been given by the teacher, they always answer did not understand the assignment of teacher. Then, when a student was given a question by the teacher, then the student is not trying to answer, he said nothing. Likewise, when the teacher gave students the chance to ask the subject matter. Not many students are trying to answer questions from the teacher. Generally, student who often answered questions given by the teacher and was active in the learning process is the students who got rank and champion in the class.

To confirm this paper, the author asked values data both classes from the teacher. The result shows that the majority of students in cross-major of sociology have reached Minimum Criteria of Mastery Learning (KKM) has been determined. Indicating from the mid value and the value of the second semester, there are only four students who did not reach Minimum Criteria of Mastery Learning (KKM) from 35 students. While in 11th grade of Social Sciences Major (IIS₂), it is seen that the value of mid semester and second semester of students in Social Sciences Major (IIS), there are many students who do not reach Minimum Criteria of Mastery Learning (KKM). In the value of mid semester, the number of students who do not reach Minimum Criteria of Mastery Learning (KKM) are 17 students from 28 students. While in the value of second semester, the number of students who do not reach Minimum Criteria of Mastery Learning (KKM) are 16 students from 28 students.

Based on the background of problems above, the author interested in writing about students' active participation in the learning sociology of cross-major in 11th grade in SMA N 1 Lubuk Alung. The issues that will be discussed in this paper are forms of students' activeness in learning sociology of cross-major and factors that lead to students of cross-major of sociology in 11th grade in SMA N 1 Lubuk Alung are active to learn sociology subject?

2. Method

This research was conducted in SMA N 1 Lubuk Alung. The author chose this location because of SMA N 1 Lubuk Alung has been a first piloting school designated by the Department of Education of Padang Pariaman District to use the Curriculum 2013. SMA N 1 Lubuk Alung is also an excellent school that is much in demand by students both in the area of Padang Pariaman and outside the area of Padang Pariaman. This school also received an Adiwiyata Mandiri Award from the President, Joko Widodo in June, 2015.

This study used a qualitative and descriptive approach (Moleong, Lexy; 2007: 4). Selection of informants was conducted by using purposive sampling, that is, by determining informants based on the goal of research. The criteria of informant for this study is teacher who teaches in 11th grade of cross-major of sociology and 11th grade students in SMA N 1 Lubuk Alung of Math and Natural Sciences (MIA) who follow in learning cross-major of sociology subject. The informants consist of Principal, deputy principal of Curriculum sector, one teacher who teaches sociology at 11th grade of cross-major, and 35 students of cross-major of sociology.

Collecting data is conducted by non participation observation (Basrowi and Kelvin; 2008: 109), that is, the author is directly involved with the activities of the person being observed, but the author is just as independent observer such as observing teaching and learning process in 11th grade of sociology cross-major directly, but the author is not directly involved in teaching and learning activities. Things will be observed by the author in this study are the implementation teaching and learning process which consists of: what activities are performed by students in teaching and learning process of sociology in cross-major class. Besides that, collecting data is also conducted by indepth interview, which is an unstructured interview between the author and the informants which is done repeatedly. Then, collecting data is also done by documentation (Arikunto, Suharsimi; 2010: 274) which contains

secondary data such as photos, data of students' values, and the number of students from cross-major of sociology as well as others data concerning on the students' activeness in learning sociology of cross-major of 11th grade students in SMA N 1 Lubuk Alung.

In examining the validity of the data in this study, author conducted a triangulation of data by providing a relatively similar questions to the informants, comparing between observation and interviews data so that obtain valid and accurate data. The data obtained from the field will be continuously analyzed using an interactive model developed by Miles & Huberman. Analyzing data by this model is done through steps such as, data reduction, data presentation and conclusion (Miles and Huberman; 1992: 20).

3. Results

Nowadays, psychological tendency assume that the child is an active creature. Child has encouragement to do something, has willing and aspirations. Learning can not be imposed by others and can not be delegated to others. Learning will be occurring child himself is active to experience. John Dewey, for example, suggests that learning is about what should be done by students for themselves, so initiative should come from the students themselves. Teacher is only supervisor and director. Students learn actively when they are engaged continuously during teaching and learning process (Dimiyati and Mudjiono, 1999: 45). Student's activeness in teaching and learning process take diverse forms of activities, from physical activities which are easily observed through psychic activities until psychic activities which are difficult to observe. Physical activity which can be observed such as reading, listening, writing, demonstrating and measuring. While the examples of psychic activity such as recalling subject content of previous meetings, using knowledge in solving problems, concluding the results of experiments, comparing one concept to another, and other psychic activities.

According Sriyono, et.al (1992: 75) the activeness can be viewed from two things: physical activeness and spiritual activeness. Both physical and spiritual activeness include (1) senses activeness, namely hearing, sight, touch and others; (2) mind activeness; (3) memorizing activeness; (4) emotions activeness. Suryosubroto (2009: 59), the student will be said to be active in learning if there are characteristics, namely: (1) Doing something to understand the subject matter full-confidently; (2) Learning, understanding, deciding and processing

knowledge by himself; (3) Working by himself the tasks assigned by the teacher; (4) Learning in a group; (5) Trying specific concepts by himself; (6) Communicating the results of thought, discovery and knowledge of the values orally or by performing.

As for factors that affect student learning activeness are internal and external factors. The internal factors that affect in student learning activeness are physiological factors that affect in student learning activeness are biological factors which includes the physical state (the five senses) and physical, and physiological factor which attention, responses, and memories become factors supporting student learning activeness. While the external factors that affect the activity of students are non-social factors ie place and facilities, as well as social factors ie teachers and peers. Place, facility and teacher become the supporting factor of student learning activity. While peers become factors that inhibit students' learning activities (Arbetta, 2005; Sleep & Duffy, 1977).

According to National Department of Education (2003: 7) sociology subject is intended to develop and assess daily phenomenon. The material subject covers the basic concepts in studying various phenomena and problems encountered in real life in the community. In sociology learning, teacher is expected to develop students' abilities to apply their understanding towards the concept of daily social life phenomenon, especially in actualizing students' potential in taking and revealing their own status and roles. It would happen well, if in learning sociology students were able to ask questions and express their opinions so they can express their ideas, as well as students are expected to think more critical in facing the daily life phenomenon. Thus, in learning sociology, students are required to be active and participatory in questioning and expression. The role of the teacher in this case is a motivator and mediator in order students' activeness and critical thinking can be channeled into a more positive direction in accordance with the material subject of sociology. It can be seen from the interaction that exists between teacher and students in teaching and learning process.

Based on observation that the author found, 11th grade students studying cross-major of sociology seem active and enthusiasm when they learned sociology subject. Learning cross-major of sociology is one of the subjects that are much favored by students in SMA N 1 Lubuk Alung, particularly by 11th students of Math and Natural Sciences Major (IPA) who took sociology subject as optional cross-major of subjects.

Implementation of 11th grade students of cross-major in learning sociology subject is conducted on 9th lesson, that is, when going home from school in order not to disturb other subjects lessons. Schedule of teaching and learning process (PBM) of cross-major is defined together between the teacher and the students. The teaching and learning process of cross-major of sociology in 11th grade is done twice a week, both are, every Wednesday and Thursday with the number of each lessons is 2 hours lesson which starts at 2:30 pm and finishes at 4.00 pm. The following will be explained the forms and the factors that cause 11th grade students being active in learning sociology subject of cross-major in SMA N 1 Lubuk Alung, as follows:

1) The forms of 11th grade students' activeness of cross-major of sociology in learning sociology are:

a. Students are Active in Observation

During observation and interview process, it is seen that students of cross-major of sociology are serious in listening, recording, and listening to the material subject presented by the teacher. This is proven from the results of interviews with some students whom say that they are active in observing due to teacher is discipline, and if they do not pay attention, listen to the material subject presented by teacher well, so they will not understand the lesson, in addition, when they follow exam, all of the material subject explained by the teacher goes into the exam.

b. Students are Active in Asking

Based on observation and interview that the author conducted in SMA N 1 Lubuk Alung during the teaching and learning sociology, it is seen that students are active in asking in accordance with the material subject and when they do not understand the material subject presented by the teacher. This is according with that expressed by some students that they are active in asking in accordance with the material subject explained by teacher. The aim is that they will be more familiar with the material that has been explained by the teacher, so that when they follow exam they can easily answer questions.

c. Students are Active in Group Discussion

Based on observation and interview in SMA N 1 Lubuk Alung during the teaching and learning sociology, the implementation of group discussion process in class is divided into small groups consisting of 3 to 4 people. During the discussion, they are active because they desire to

exchange ideas, give or refute opinions, give advices and feedback if there are students who are confused with the material subject.

d. Students are Active in Summarizing Material Subject

Based on observation and interview during in SMA N 1 Lubuk Alung when the teaching and learning sociology was running, it is seen that many students are actively raising hand when teacher order students to summarize the material subject based on their own understanding and their own words. The aim is so they understand the concepts and understanding based on their own understanding. Students are no rigid anymore to the concepts/definitions in the books. However, students will be better understand when they generate a concept / definition of social case sample given by teacher in their own language.

2) The factors cause students being active in learning sociology of 11th grade cross-major in SMA N 1 Lubuk Alung:

a. The high interest of Students towards Sociology Subject

Based on observation and interview with some students during the teaching and learning sociology of 11th grade cross-major in Math and Natural Sciences Major (MIPA), it is seen that students' encouragement and willingness to learn in learning sociology is high, because most of them who chose sociology subject as an optional cross-major based on their own interests without any element of following friends only. It is seen, at which the teaching and learning process will begin precisely at the 9th lesson after school, many students who were waiting for teacher in the classroom quietly while reading books relating to sociology subject. This is evidenced by sentences of Muhammad Dzaky, Husnul Abdi, and Dian Sartika that they chose to cross-major of sociology merely by their own desire. This is because they want to know more deeply the importance of sociology in life.

b. Learning Sociology is Understandable

The next factors that cause students of cross-major being active in learning sociology, because sociology subject is easy to understand. It is seen by the author during observation and interview that most of them answered that sociology subject is easily understood and examples of sociology facts / phenomena are founded around daily environment.

c. Students' Saturation towards the Material Calculation

Based on observation and interview during the research process, they are active and happy in learning sociology subject because every day they are always addressed with materials relating to numbers like chemistry, mathematics and physics. They are active because they want refresh the brains from subjects relating to the calculations. This is caused that they are tired, dizzy, saturated and bored with subjects relating to the numbers.

d. Intellectual ability High Students

The next factors that cause the students being active in learning sociology of cross-major is high students' intellectual ability. This is evidenced from statements from deputy principal

of curriculum sector and sociology teachers of cross-major in 11th grade in SMA N 1 Lubuk Alung that students who choose cross-major of sociology mostly also are students who graduate without entrance test to SMA N 1 Lubuk Alung. About 15 students in cross-major of sociology passed through a special line created by SMA N 1 Lubuk Alung named as Interest and Capabilities Search (PMDK). These students mostly also come from the winners of the Olympics, both the local level even national level. Most of them indicated that the results of all their subjects in school are generally exceed from Minimum Criteria of Mastery Learning (KKM), that is, 80.

Table 2: Values of Cross-Major Interests of Sociology in 11th grade in SMAN 1 Lubuk Alung academic year 2014/2015

No.	Name	Class	Minimum Criteria of Mastery Learning	Mid Values	Second Semester Values
1.	Alya Anzira	XI MIA 1	80	90	93
2.	Alya Prisikalita	XI MIA 6	80	80	96
3.	Anugrah Andikmon	XI MIA 6	80	70	90
4.	Arvia Nella Z	XI MIA 2	80	90	93
5.	Chikyta Arnel	XI MIA 5	80	90	90
6.	Clarita Tifanny	XI MIA 4	80	85	84
7.	Dara Purnama Kessy	XI MIA 1	80	80	87
8.	Deri Kurnia Ilahi	XI MIA 1	80	90	93
9.	Dian Santika	XI MIA 4	80	80	76
10.	Dilla Intan Gustiyani	XI MIA 2	80	80	93
11.	Dwi Yuraq Lestari	XI MIA 5	80	80	84
12.	Facgrudin Putra	XI MIA 6	80	80	93
13.	Fitri Utami	XI MIA 3	80	80	80
14.	Gema Haresya	XI MIA 3	80	90	95
15.	Hayatul Aini	XI MIA 4	80	80	85
16.	Husnul Abdi	XI MIA 1	80	80	87
17.	Ichram Suminda	XI MIA 6	80	80	72
18.	Jumita Rahmi	XI MIA 6	80	80	84
19.	Kiki Khairunnisa	XI MIA 1	80	85	93
20.	Mona Amelia	XI MIA 6	80	88	81
21.	Muhammad Dzaky	XI MIA 3	80	86	80
22.	M. Pinto Nurhadi	XI MIA 4	80	86	75
23.	Muhanafi Sidiq	XI MIA 5	80	85	90
24.	Nada Izatil Hasanah	XI MIA 2	80	85	93
25.	Nila Novita Sari	XI MIA 5	80	78	84
26.	Novia Cania	XI MIA 1	80	85	93
27.	Putri Aulia Syarif	XI MIA 2	80	85	90
28.	Raynaldo Wan Oksa	XI MIA 3	80	78	74
29.	Ridha Pratiwi	XI MIA 4	80	88	88
30.	Rifai Rahman	XI MIA 3	80	86	86
31.	Sasgita Putri Yansari	XI MIA 6	80	88	81
32.	Winda Dwi Novita	XI MIA 1	80	80	87
33.	Yeltri Mairoza	XI MIA 6	80	88	88
34.	Yelvia Yulia	XI MIA 5	80	78	92
35.	Yusep Anwar Rio	XI MIA 3	80	90	90

Source: Archive of Value in Second Semester of Cross-Interest Sociology Major of 11th Grade from Sociology Teacher

e. Ideals Students of Choosing Social Sciences (IPS) Programs in University

Based on observation and interview during study in SMAN 1 Lubuk Alung, during the teaching and learning sociology of cross-major in

11th grade of Math and Natural Sciences (MIPA), it seems that many students who are serious and passionate in studying sociology. It is proven that there are some students who want to choose a major of social sciences in university, such as

choosing international relations at UI, communication sciences in UNPAD, communication sciences in UGM, as well as wants to become a psychologist. By learning sociology, it will be able to support them in continuing their study to state universities.

4. Discussion

The theory which is used to analyze factors of the students being active in learning sociology of cross-interest major in 11th grade in SMA N 1 Lubuk Alung is behavioristic theory according to Skinner (2005: 24 in the book Rahyubi, Heri 2012). Skinner concluded that behavior change as a result of the existence of stimulus and response which will bring consequences given by a person who in turn can affect or be considered about the behavior appearance. In other words, learning is a form of change experienced by student in terms of his ability to behave in a new way as a result of interaction between stimulus and response. A person is considered to have learned something if he can show changes in his behaviors. Stimulus has very important role in learning, because stimulus is any form of excitation given to students in learning which would affect behavior of students in learning. The stimulus may be a factor that affects both from outside or from within the students in the learning process. In teaching and learning process in school, stimulus is what else provided by the teacher to the student, while the response is a reaction of students to the stimulus provided by the teacher.

Student activities are the practical extension of the school curriculum. They have traditionally provided students with avenues for expression and relevant experiences. They are not at odds with academic pursuits. They serve as auxiliary laboratory for such curricula and more. Here is where many opportunities are provided for developing leadership and a concept of self-worth and for meeting the social emotional needs of students. A school with only student activities would be as absurd as a school without them. Student also place a high value participation in students activities. Student activities have become an accepted part of total school program. The literature reports benefits of leadership, feeling of self-worth, self-actualization, useful skills and knowledge, social and emotional development, and motivation, and indicates that success in college and later life derives from participation in student activities (Activities, n.d.; Huie, n.d.; Madison, 1950). Where the teacher specifically had instructed students to work closely together, the most common work pattern

was a collaborative one. Students characterized by the collaborative pattern worked in close cooperation on the assignment discussing sources, commenting each other's texts and writing together. They also asked the teacher to comment on sources and texts. Typical for deep students is to strive for a personal understanding of a topic by linking learning experiences to previous topical understanding and combining subject areas to wholes. This analytical way of approaching learning may result in a meta-cognitive awareness of how topics link together. These students consequently found it easy to write an overview of the topic based on their readings (Heinstro & Sormunen, 2016).

During learning sociology in 11th grade of cross-interest major in SMA N 1 Lubuk Alung, it is seen students' activeness in learning. According to behavioristic theory, it is influenced by the good interaction between the stimulus and the response, so that causing the students are more active. If teacher provide a good stimulus such as giving positive reinforcement to students, by giving pictures, cases, and social phenomena that occur in the community, then the students' response will be also good and getting stronger. The stimulus provided by the teacher is very important to help students to be more active in learning in the classroom. If the teacher provides a good stimulus to students, so within students certainly will arise the motivation and interest in learning. This can be seen in the learning sociology process of cross-interest major in 11th grade in SMA N 1 Lubuk Alung when the teacher gives an example of the social problems to be discussed with the group, many students who are active in listening, observing, asking questions, giving feedback or opposing group which is performing, as well as active in concluding the material subject based on their own understanding and language. A concept / definition no comes from the teacher again, but it was student who try to express it based on the knowledge he has obtained from the examples given by the teacher. Thus, the teaching and learning process will be fun by students and they will be motivated continuously to be active in learning.

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CRITICAL THINKING AND ITS AFFECTING FACTORS

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Abstract

The objectives of this research were to measure the success rate achieved by the alumni of Open/ Distance Learning (O/DL), the Bachelor Education In-service Teachers Program (BEITP), Satya Wacana Christian University (SWCU), Salatiga in their critical thinking habit that lead to their success, and to find factors which determined their critical thinking habit. The factors concerned were student factor (learning motivation, alumni's readiness to enter ICT community, prerequisite) or teacher factor (teacher's ability in creating and using a new instructional context). This quantitative research belongs to the causality ex-post facto research. The data source was one class of O/DL, the BEITP, SWCU students, who were chosen out of four classes, as many as 32 alumni in the academic year 2015/2016. Data were screened using a self-rating scale, which consisted of 40 items tested valid and reliable, and then reduced to 5 variables. The BEITP, SWCU Salatiga had graduated most of its alumni who owned critical thinking habit at a high rate. The critical thinking habit was affected by the instructional contexts which enabled a new situation (Model 1), alumni's readiness to enter the ICT community (Model 2), pre-requisite, i.e., mastery of previous lecture materials (Model 3), and student's learning motivation (Model 4) to reach 81%. The alumni's critical thinking habit of 51.20% was determined by the teacher's role in developing instructional contexts which made a new situation possible. This finding was useful for educational quality management for the effectiveness and productivity of higher education, which should have been focused on the teacher in developing an instructional strategy based on context, alumni readiness to enter the ICT community, prerequisite, and student's learning motivation.

Keywords: critical thinking habit, learning motivation, ICT community, prerequisite, instructional contexts.

1. Introduction

Critical thinking skills are essential skills for life, work, and function effectively in all other aspects of life [1]. The role of teachers is now more complex than ever before, for example, how teachers respond to the diverse needs of students is constantly changing as a result of such rapid technological developments and the demands of the community to achieve excellence, as well as changes in the social construction of society and globalization. Critical thinking is a cognitive activity which is related to the use of reasoning. Learning to think critically means using mental process, such as listening, categorizing, selecting, and assessing or deciding. Critical thinking ability gives a precise direction in thinking and working, and helps in determining a relationship between things in a more accurate way. Therefore, the critical thinking ability is very much needed in solving or finding a solution to a problem and in managing assignments [2]. In order to become a habit, the development of critical thinking ability involves the integration of a few abilities: observation, perception of information from various viewpoints, analysis, reasoning, assessment, decision making, and persuasion.

The better the development of these abilities - given such habit has been formed, we will be more able to overcome complicated problems which a satisfactory result.

Critical thinking includes activities, such as detailed and thorough observation, identification of tendencies and patterns as in information mapping, identification of similarities and dissimilarities, etc., repeating observation to ensure there is no skipping, seeing the obtained information from various viewpoints, selecting preferred solutions objectively, and considering impacts and long-range consequences from the solutions that have been chosen [3].

Learning to develop critical thinking habit emphasizes the importance of student's efforts to actively analyze and solve various surrounding problems including the learning process. Reference [4] asserted that teacher's lack of understanding about critical thinking results in the tendency to not teach nor assess the student's thinking skills. Often, critical thinking instructions are thought of as problem solving, despite solving problems are part of critical thinking ability [2].

The development of critical thinking ability is an integration of some parts of ability

development, such as observation, analysis, reasoning, assessment, decision making, and persuasion. The better the development of these abilities, we will be more able to overcome complicated problems or projects which a satisfactory result. Instructional strategies which can increase critical thinking ability are 1) group learning through small group discussions, 2) using relevant contexts such as a problem in the training material which is understood by the participants can increase critical thinking ability, and 3) assessment procedure which needs an in depth study motivates participants to learn more meaningfully without rote memorization [5]. A group learning method or an ability to cooperate is very much needed. Besides overcoming individual learning weaknesses which is often caused by self-limitation, working in groups also characterizes modern development nowadays. Effective collaboration is usually balanced by individual skills in a continuous inquiry.

One factor which determines the success of critical thinking instructional program is training for teachers. However, we have to remember that training only will not be effective in improving thinking skills if its application is not as expected and not supported by appropriate administration and management, and the on-going program is not compatible with the student population [6]. Although it is not yet developed, the ICT-based instructional management which stresses on the importance of program productivity (in this case critical thinking habit) enables teachers to make a reflection on the process of their instructions both at individual and group levels (for example, in a conference and a joint product on on-line electronic self-assessment). Motivating teachers and students to think critically about teaching-learning processes (in the ICT-based instructions) can make some aspects of teacher's pedagogy more accurate and efficient (cf. [7]).

The problems in this research were limited in the development of the critical thinking habit of students of O/DL, the BEITP, SWCU Salatiga. The problem statements were: 1) how high is the rate of critical thinking habit for the success of the alumni? 2) what side factors of the instructions determine critical thinking habit for the success of the alumni? In the educational perspective as a system, the result (the alumni's success in the form of critical thinking habit) was directly affected by the process (instructional management). Here, the students and the teachers play a primary role to be attended [8]. The student factor includes learning motivation (X_1), readiness to enter ICT community (X_2), and the mastery of past materials (prerequisite) (X_3). The

teacher factor comprises teacher's ability to create and to use new instructional contexts in the ICT-based PJJ program (X_4) [5].

Motivation is a drive which arises consciously or unconsciously to do an action for a particular purpose [9]. Motivation comes from the word motif, meaning a motor from the inside and in a subject to perform a particular activity for a purpose. Motif can also mean an internal condition (alertness); therefore, motivation means an active motor power at particular times to achieve an urgent or felt purpose. For students, their primary activity is to study. According to Reference [10], motivation is a driving power or stimulus to achieve an objective. Student's learning motivation is an internal state which stimulates and directs their attitude for a purpose to be achieved in participating in education [11]. What is meant by student motivation, therefore, is the whole internal drive power which evokes a learning activity [12].

Student learning motivation should have been realized in the following attitudes: always coming to classes, attending to lectures actively, making notes diligently, doing assignments given by teachers on their own initiative and awareness, reading in or borrowing from the library, and using leisure time to study. Besides, students who have a high learning motivation possess a high target to achieve, a sense of appreciation to themselves, and a competition of achievement among classmates because for them attending classes is very important for their future life.

Education is a means for social empowerment for the future and preparing students to encounter global change challenges [13]. Education must play its role and prepare students for the constellation of global society. Despite its future orientation, it must be based on the present conditions [14]. The global society constellation is characterized by advances in science and technology, especially the information and communication technology (ICT). The ICT or information community is often used to describe a community which uses information technology in a high intensity in everyday life. The community uses the same or compatible technology for various individual, social, educational, business activities, and even to spend leisure time. The technology has the ability to send, receive, and exchange digital data in a high velocity between places regardless of distances. The ICT community or the information is also called digital community [15].

Some of the indicators for the ICT community can be identified from the ability in

utilizing ICT individually or in a team work to support critical thinking, creativity, and innovation for educational purposes, networking, and recreational purposes; from the critical and reflective attitude when receiving information in a conscious way that there is a business motif in technology; from the understanding in the consequences of using ICT, owning competence in understanding the values and responsibilities in communication and other qualities; from being responsible in using technology, having sensitivity in making the internet safe [16].

In agreement with the principle of reconstructionism, the condition of the society always wants basic changes [17]. In this case, education especially the Higher Education should be able to produce products which are needed by the changes towards ICT community. In the adverse condition of education in Indonesia, the problem is whether education/higher education is still competent in producing graduates who are ready for the ICT community: what factors are affecting? This is critical for the quality management of education in view of effectiveness and productivity of Higher Education.

Prior knowledge, which is also called prerequisite knowledge, is a group of students' knowledge and experiences obtained throughout their life time, and what they would bring to a new learning experience. What the students know more or less affects what they are learning. A student learns by connecting new ideas with old ones. The significance of the prior knowledge is to help students build a bridge between new knowledge and that that they have already [18]. Prior knowledge has at least four characteristics: 1) it is based on student's life experiences, 2) student's prior knowledge is sometimes different from that used by scientists or teachers, 3) it is resistant to changes and tenacious, although it goes through a formal instruction, and 4) prior knowledge will affect the process of instruction or conceptual development [19]. The student's prior knowledge is an important element in the process of lectures because it can help students find new things and understanding. It determines a possible, new learning [20].

Contexts are physical or social environmental aspects which are interconnected with particular utterances. In addition, contexts are a set of knowledge which has the same speakers and listeners *selain itu*, so that the listeners understand what is meant by the speaker. Contexts are a cause and a reason for a conversation to take place [21]. In an instruction, contexts are related to participants (teachers and students) and they also play a role in

understanding meaning and information conveyed by the teacher including in the ICT-based instructions. The use of a relevant context such as the problem in the class materials which is understood by participants may increase critical thinking ability, and furthermore, an assessment technique which needs a deeper study encourages students to learn more meaningfully but not only memorizing [5].

The objectives of this research were to measure the rate of critical thinking habit as a token for the alumni's success, and to identify side factors in the instructions which became determinants for critical thinking habit, including student factor, namely, learning motivation, readiness to enter the ICT community, and the mastery of previous lectures (prerequisite). Teacher factor included teacher's ability in creating and using new instructional contexts in the ICT-base O/DL classes. A new finding in this research would have been very useful for educational quality management, not only in terms of efficiency but also effectiveness in the productivity of the ICT-based PJJ Program.

2. Method

This study was conducted on the basis of the assessment of the alumni of O/DL, the BEITP, SWCU Salatiga. The O/DL program was administered in 5 different regencies, namely, Kebumen, Grobogan, Pati, Kudus, and Batang. The sample was randomly selected from one regency, i.e., Batang regency, as many as 48 people.

Based on the formulation of the problem, this research was an inferential quantitative research. The quantitative research revealed inferential relationship between two or more variables that could examine the effect of variables X_1 (student learning motivation), X_2 (readiness of graduates to enter the ICT community), X_3 (prerequisite - the mastery of the previous lecture material), X_4 (instructional context that allow new situations) and Y (the alumni's critical thinking); then found the determinant variable among the four independent variables in question. The time of this study was the 2nd half of 2014/2015.

Statistical Hypothesis

In the ordinal order, the variable of the alumni's critical thinking, there was one dominant level among four categories: low, medium, high and very high. Among the 4 independent variables, there were positively significant determinants on the critical thinking of alumni in the ICT-based program. In other words, the regression coefficient predictor

determinant (b_1) was significantly positive. Statistical hypothesis proposed were:

$H_0: b_1 = 0$ (there is no determinant influence on critical thinking of alumni of BEITP for teachers through open/distance learning)

$H_1: b_1 \neq 0$ (there is a determinant influence on critical thinking of alumni of BEITP for teachers through open/distance learning)

The effects on individual or multiple variables were discovered by looking at the value of b in the determinant variable. Furthermore, the significance of value b will be tested by t-test. T significance was seen in its value. If b was positive, and t was significant at an error rate of less than 0.05, the hypothesis H_1 would be accepted.

Instruments and Data Analysis Techniques

The data of this study was quantitative data in the form of numbers; Ordinal data was data that was expressed in forms of categories and ranked. Ordinal scale used was the ranking scale (Likert Scale) that consists of statements and answers with low, medium, high and very high corresponding to measurement purposes. Data were collected through a self-rating scale consisting of 32 items that had been proven its validity and reliability; Score validity 0.199 to 0.827, with a reliability index Cronbach's alpha = 0.93.

Data on values of variables were analyzed by using frequency distribution and linear regression (double) with Stepwise Model. The collected instrument items used the calculation of factor analysis. Furthermore, the researcher created the model of relationship (causal models). The patterns of the independent variables influence (determinant) on the dependent variable was tested by F test at the 0.05 level. This calculation was carried out with SPSS version 20.

In the testing concept model, the determinant coefficient from the independent variable to the dependent variable was calculated. The calculation result of the determinant coefficient from four independent variables in this study on the dependent variable was adjusted by R^2 coefficient. If the significance r was less than or equal to 0.05, this model was declared significant, as X_{1-4} (selected) influenced Y , as much as adjusted R^2 coefficient.

3. Research Outcome and Discussion

Descriptive Analysis

After the data were screened by self-rating scale which consisted of 40 items, the data were then reduced to 5 and were analyzed

descriptively with the help of the SPSS for windows program version 20. The result is shown in Table 1 below.

Table 1 Variable Statistical Index

	Mean	Med.	Sd.	Min.	Max.
X_1	2.7273	3.0000	.51676	2.00	4.00
X_2	2.5758	3.0000	.61392	2.00	4.00
X_3	2.7273	3.0000	.57406	1.00	4.00
X_4	2.4848	3.0000	.83371	1.00	4.00
Y	2.4394	2.5000	.47611	1.50	3.25

Based on the result of the descriptive analysis as presented in Table 1 above, most of the respondents (alumni) have learning motivation (X_1) at the medium rate, readiness to enter the ICT community (X_2) at the medium rate, mastery of the prerequisite (previous lecture materials) (X_3) at the mid-high rate, and teacher's ability in preparing instructional contexts to yield a new situation (X_4) at the medium rate, and students/alumni's critical thinking (Y) at the high rate.

Hypothesis Test

The next analysis was to know whether the four free variables (X_{1-4}) affected the students/alumni's critical thinking habit (Y). If it was true, how many models there were and how significant was their models? The result of the regression analysis is shown in Table 3 below.

Table 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726 ^a	.527	.512	.33274
2	.862 ^b	.744	.727	.24886
3	.897 ^c	.805	.785	.22069
4	.913 ^d	.834	.810	.20757

a. Predictors: (Constant), X_4

b. Predictors: (Constant), X_4 , X_2

c. Predictors: (Constant), X_4 , X_2 , X_3

d. Predictors: (Constant), X_4 , X_2 , X_3 , X_1

The result of the hypothesis test by regression analysis as presented in Table 3 above shows that 4 models were discovered; Model 1 Instructional context which yields a new situation (X_4) affected the alumni's critical thinking habit (Y): R gained = 0.726 and adjusted R Square = 0.512 or 51.20%. Model 2 Instructional context which yields a new situation (X_4) and Alumni readiness to enter the ICT community (X_2) affected the alumni's critical thinking habit (Y): R gained = 0.862 and

Adjusted R Square = 0.727 or 72.70%. Model 3 Instructional context which yields a new situation (X_4), Alumni readiness to enter the ICT community (X_2), and Prerequisite, i.e., the mastery of previous lecture materials (X_3) affected the alumni's critical thinking habit (Y): R gained = 0.897 and Adjusted R Square = 0.785 or 78.50%. Model 4 Instructional context which yields a new situation (X_4), Alumni readiness to enter the ICT community (X_2), Prerequisite, i.e., the mastery of previous lecture materials (X_3) and Student learning motivation (X_1) affected the alumni's critical thinking habit (Y): R gained = 0.913 and Adjusted R Square = 0.810 or 81%. Therefore, the hypothesis which asserted that there was a determinant for the alumni's critical thinking had been supported by data.

Table 4. ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.822	1	3.822	34.518	.000 ^a
	Residual	3.432	31	.111		
	Total	7.254	32			
2	Regression	5.396	2	2.698	43.562	.000 ^b
	Residual	1.858	30	.062		
	Total	7.254	32			
3	Regression	5.841	3	1.947	39.978	.000 ^c
	Residual	1.412	29	.049		
	Total	7.254	32			
4	Regression	6.047	4	1.512	35.091	.000 ^d
	Residual	1.206	28	.043		
	Total	7.254	32			

a. Predictors: (Constant), X_4

b. Predictors: (Constant), X_4 , X_2

c. Predictors: (Constant), X_4 , X_2 , X_3

d. Predictors: (Constant), X_4 , X_2 , X_3 , X_1

e. Dependent Variable: Y

Table 3 Anova above explains four models: Model 1 Instructional context which yields a new situation (X_4) affected the alumni's critical thinking habit (Y): F gained = 34.518 at the significance level 0.000. Model 2 Instructional context which yields a new situation (X_4) and Alumni readiness to enter the ICT community (X_2) affected the alumni's critical thinking habit (Y): F gained = 43.562 at the significance level 0.,000. Model 3 Instructional context which yields a new situation (X_4), Alumni readiness to enter the ICT community (X_2) and Prerequisite, i.e., the mastery of previous lecture materials (X_3) affected the alumni's critical thinking habit (Y): F gained = 39.978 at the significance level 0.000. Model 4 Instructional context which yields a new situation (X_4), Alumni readiness to enter the ICT community (X_2), Prerequisite, i.e., the mastery of previous lecture materials (X_3)

and Student's learning motivation (X_1) affected the alumni's critical thinking habit (Y): F gained = 35.091 at the significance 0.000. The rate of significance level in the four models was 0.000 which is smaller than 0.05. Therefore, the four predictor variables affected the alumni's critical thinking habit positively and significantly.

Discussion

The result of this research obtained 4 models: Model 1 Instructional context which yields a new situation had affected the alumni's critical thinking habit at 51.20%. The instructional process should have been able to create a conducive class atmosphere to support the existence of quality instructional process, which results in meaningful learning for students, and in turn facilitates the optimal development of competence and potentials of the students, including their critical thinking habit. In an instructional process, the important thing is not only the materials to be taught or whoever the teacher is, but how the materials are taught, how the teacher creates a conducive class atmosphere in the instructional process. Many factors need to be attended to in creating a quality and conducive class atmosphere in order to improve students' achievement. The factor to be attended to according to Reference [22] are among others, the instructional approach should be orientated to the way students learn (student centered); teacher's appreciation to the students for their active participation in the learning process. Teachers should be democratic in administering class activities, each problem that arises should better be discussed dialogically, various kinds of learning resources can be easily accessed or learned promptly. Class environment should be set in such a way that motivates students and leads to appropriate instructional process.

The result of the research by Reference [23] concluded that students' learning motivation varied: 8% were at the high category, 72% at the medium category, and 20% at the low category. Therefore, the motivation of most students (72%) was at the medium category. Meanwhile, Reference [24] asserted that learning motivation gave a small effect (2%) on the students' learning result. In contrast, however, Reference [25] in her research concluded that learning motivation affected positively on the 2008 students' achievement in the Entrepreneurship subject at FKIP Pendidikan Akuntansi, Universitas Muhammadiyah, Surakarta with the effective contribution of 6.9%. Reference [26] Sovia, A. (2016) in her research found that the rate of students' learning motivation after taking a class was at the very high category, which was

contrary to the research finding of Reference [27] which indicated that the learning motivation of most students was low. One of the things that needs teacher's attention in order to improve students' learning motivation was by applying a precise instructional model [17]. Unlike this finding, learning result being measured was the critical thinking habit, while the position of learning motivation has just played its role when three variables were followed: the instructional context which yields a new situation, alumni's readiness to enter the ICT community, and the prerequisite, i.e., the mastery of previous lecture materials. The contribution of motivation to critical thinking habit was 2.50%.

The alumni's readiness to enter the ICT community in this research evidently went with the instructional contexts which brought about a new situation contributed 72.70%; in other words, the alumni's readiness to enter the ICT community alone contributed 21.50%. This research agrees with the premise developed by Reference [28] who revealed that an ICT project where children read books and then use email communication to exchange responses with other learners will support critical thinking. Education and instruction landscape is more and more challenged by rapid changes through technological advances and future knowledgeable society, in which manpower is the key that makes education an integral part of development with the ICT as the primary motor in changes and advances [29].

Skills involved in critical thinking into three kinds: metacomponent, performance component, and acquired knowledge component. The study on critical thinking combines educational tradition, philosophy, and psychological reasoning. Critical thinking comprises mental, strategic, and representational processes that people use to solve problems, make decisions, and learn new concepts [30]. Therefore, it is appropriate if the mastery of previous lecture materials (prerequisite) becomes an absolute requirement for skill development and critical thinking habituation. Knowledge and experience are prerequisite to critical thinking in the area in which the thinking is done [31].

This new finding is very much useful for educational quality management in terms of effectiveness and productivity of Higher Education. The primary determinant for the habit of critical thinking is teacher's role in developing instructional contexts which bring about a new situation. Despite being undeveloped, the important characteristic of management approach of the ICT enables teachers to make a reflection on the process of

planning, implementation, and evaluation of the instructions either individually or in groups, for example, in a conference and a joint product of on-line electronic self-assessment. Stimulating teachers and students to think about teaching-learning processes (ICT-based instructions) may make some aspects of teacher's pedagogy more accurate, effective, and efficient [7]. This new finding will be very much useful for educational quality management in terms of effectiveness and productivity of Higher Education as executor of the ICT-based PJJ Program.

4. Conclusion

This research has measured critical thinking habit of the alumni of O/DL, the BEITP, SWCU Salatiga. It was evident that O/DL the BEITP has graduated most of its alumni with critical thinking habit at a high rate. The alumni's critical thinking habit was affected by the instructional contexts which brought about a new situation (Model 1) at 51.20%. The instructional contexts with a new situation and the alumni's readiness to enter the ICT community (Model 2) affected the alumni's critical thinking habit at 72.70%. The instructional contexts with a new situation, the alumni's readiness to enter the ICT community, and the prerequisite, i.e., the mastery of previous lecture materials (Model 3) affected the alumni's critical thinking habit at 78.50%. The instructional contexts with a new situation, the alumni's readiness to enter the ICT community, and the prerequisite, i.e., the mastery of previous lecture materials, and students' learning motivation (Model 4) affected the alumni's critical thinking habit at 81%.

This new finding will be very much useful for educational quality management in terms of effectiveness and productivity of Higher Education as executor of the ICT-based PJJ Program. The primary determinant for critical thinking habit is the teacher's role in developing instructional contexts which yield a new situation. The alumni's critical thinking habit of 51.20% was determined by the teacher's role in developing instructional contexts which yield a new situation. Therefore, it enables teachers to make a reflection on the process of planning, implementation, and evaluation of the instructions either individually or in groups. The management is focused on the teachers in developing context-based instructional strategy, alumni's readiness in entering the ICT community, the prerequisite, and student's learning motivation.

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IMPROVING THE QUALITY OF SCHOOL AS A SOLUTIONS OF EDUCATION PROBLEM

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Abstract

One of the educational issues facing the nation is the low quality of education. Various attempts have been made to improve the quality of education, including curriculum development, improving the competence of teachers, improving school infrastructure. However, improving the quality of Indonesian education is still not encouraging. Schools as an educational institution where the educational process is carried out, has a complex and dynamic system. Schools must still have a standard amid the necessity to be able to adapt with the times. In school activities is not just a gathering place for students and teachers, but the school is a system where each structure must synergize creating quality education for learners. Quality school is a school that was developed to achieve excellence in output education. To achieve these advantages the input, the process of education, teachers and education personnel, management, education, and supporting facilities should be directed to support the achievement of the human resources component tersebut. Every schools should work equally well with the means to optimize infrastructures and implementing procurement norms or rules that have been agreed for educational purposes in schools can be achieved optimally. Schools are expected to become an efficient educational institutions to educate students not only from intellectual capability can give an educational character or personality of students so that they can grow into a complete human being. In this article will discuss the improvement of the quality of schools in terms of several aspects, namely: a) an effective learning; b) good leadership management; c) The pattern of discipline without coercion; d) quality of the school curriculum. This article is a pre-study using literature relating to the quality of education. The results of this research may be used as a reference to improve the quality of education.

Keywords Quality Schools, Education Problems, Effective Learning, Leadership Management

1. Introduction

Quality education is the only way to address the problems at school. There are so many problems facing schools. Various school failures are now in the spotlight in educational development. The increasing number of school dropouts, low test scores and students are reluctant to attend math and science lessons, these are forms of school failure. One of the problems causing school failure is that students do not want to do quality work (Glasser, 2012). Many factors that cause students not to do activities well in the learning process. One of the factors is the relationship system between teachers and students who are less good in the learning process. In the existing learning process teachers tend to apply the relationship of superiors and workers who do anything according to his will. In this connection the teacher as a boss and students as workers in the learning process. The teacher applies the following four things in the learning process, (1) the teacher sets out the tasks and standards that

the student must do without compromising with the students, (2) the teacher always commands rather than giving the example, the student must submit to what the teacher instructs, 3) the teacher assesses the student's work without involving the students in the evaluation, (4) the student will be punished if the teacher refuses instruction (Glasser, 2012). The learning process that implements the relationship of teachers and students as employers and workers will not produce a quality product. Students will indeed perform the tasks assigned by the teacher. However, students will not consistently perform high quality tasks. Students do their job just because they try to avoid punishment, not because of their willingness to do quality work in the learning process. The process of learning is forced to students is a form of equating students with inanimate objects, students dianggap dead objects that can be processed in accordance with the will of teachers (Freire, 2011). This kind of learning process will not produce a quality product. The issues in this education will be discussed in this study with a view to knowing

the problems and what causes them and finding solutions to solve the problem. Look for ways that can be used to improve the quality of schools to improve the quality of education.

2. Method

This research is a study conducted by conducting literature review on sources related to the quality of education.

3. Results and Discussion

Based on the results of the literature review conducted there are several ways used to improve the quality of schools to improve the quality of education. These ways will be discussed below:

Effective learning

Effective learning is a way that can be used to improve the quality of student work in learning. Effective learning process that makes students able to carry out learning without any coercion. Teachers should manage the learning process more fun and not boring (Glasser, 2012). The teacher creates an atmosphere of learning that makes students feel comfortable in the learning process and does not feel compelled. In the learning process teachers should use a learning system with good leadership management. In this connection teachers become leaders for their students. Leaders in learning are different from superiors in learning. In a system with good leadership management implements Four basic elements namely, (1) teachers engage students in a discussion about the quality of work to be done and the time required to do so to have an opportunity to add their input, the teacher makes a continuous effort in accordance with the activity Learning and learning needs, (2) teachers show or model student work so that students who do the work can see exactly what the teacher expected. At the same time students ask their input on what they believe to be a better way, (3) the teacher asks the students to examine or evaluate their own work for quality with the understanding the teacher accepts that they know a lot about how to produce high- Because it will listen to what they say, (4) the teacher is a facilitator who helps students in the learning process by providing an atmosphere conducive to learning.

Good leadership management

Efforts that can be done to improve the quality of work students are leaders of schools to do educational practices that can improve the quality of student work. School leaders can create a policy that can make changes within the

school. School leaders manage teachers' performance better, encourage teachers to perform their tasks and functions as well as possible, encourage teachers to make learning effective and fun for students, encouraging teachers to make effective learning processes that enable students to be able to carry out learning without coercion.

The pattern of discipline without coercion

It is difficult for teachers and administrators at school to understand the handling process of students who are not law-abiding. A well-managed school has little need for many rules with an easy-to-accept concept. This requires support from all elements of the school. The number of regulations and sanctions inherent in management is the cause of almost all discipline problems that teachers complain about. Regulation seems to be the only advantage for the school leadership. A person obeys the rules of inflammation only as a formality, with the excuse of avoidance of negligence which results in punishment. Punishment does have something to do with the implication of a violation, but the main thing is to prevent that negligence does not happen. Punishment will further alienate students to a good view of school, often becoming antipathy. Punishment will sometimes also generate a sense of resentment. For example the rule is that students must attend everyday at school. Cases in some schools are still many who do not attend without reason, even if present too late. Based on Glasser's observation of students that this violation is due to the following 3 reasons: 1) too difficult to understand the material, 2) boring, and 3) the teacher (or important people) do not care. Of these three reasons, according to Glasser is no one seems to care about the most important, and it is clear that punishment will only increase the problem. Teacher's concern can generate student motivation.

When a student has a problem of any kind (even with a teacher), the teacher should not assume the student is wrong. Instead, students are listened with respect and given the opportunity to solve the problem. If students have problems with regulatory violations, teachers and managers should focus on how it can not happen to either the students or other students. Students are encouraged to deal with problems that cause them to be undisciplined.

A quality school curriculum

One of the factors that determine the quality of schools is the curriculum. When some

improvement breakthroughs have been taken, but the spirit of students and school quality is still not maximized then one of the things that must be studied is the curriculum. Glasser argues that much of the current academic curriculum is not worth the effort it takes to learn it. The question is how is the quality curriculum? Students at school (and even at colleges and graduate schools) are asked to study innumerable facts and the irony of that is only a condition for passing the exam. An important element in a quality curriculum is that students can show how what they have learned can be used in their lives. If they can do this, the teacher will know that the student has actually learned something. Almost all students will have no trouble accepting that reading, writing, and arithmetic are useful skills, but in good schools with a good curriculum they are required to show that they can use them. Students are given problems to solve and are asked to show how the solution is. A good curriculum is what students learn how to operate, such as how to multiply numbers. If you are able to master the theory, then directed to be able to practice with tools, such as calculators to calculate and so forth. Writing skills should be the main focus as well, and not just emphasize reading skills. Submission of material with practice is more appropriate than the mere theory. Students are expected to have the skills to be an active contributor to their community. Students should know about what they have learned and how learning can benefit them in the future. With a good curriculum the expectations can increase the number of students that match our expectations.

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THE DEVELOPMENT OF READING TEXTBOOK ORIENTED TO CHARACTER EDUCATION USING MULTIMODALITY IN COLLEGE: AN ANALYSIS OF READING TEXTBOOK USED AT ENGLISH DEPARTMENT OF STKIP PGRI SUMATERA BARAT

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Abstract

The purpose of this study is to analyze reading text book that was used by the lecturers in reading subjects and to design and develop reading textbook oriented to character education by using multimodality. Multimodality is the use of modes in the text and relating to education character is the aim of Indonesia national education. The method of this research is qualitative by using document checklist. The data was taken from reading textbook used in reading subjects at English Department of STKIP PGRI Sumatera Barat. The indicator of the analysis is based on multimodality theories from Kress and van Leeuwen (1996) and character values of Ministry of Education (2010). The result of this research are the book that was used by the lecturer at English Department of STKIP PGRI Sumatera Barat has not indicated multimodality and characters education yet. Based on multimodality indicators, only pictures, variation of writing style, and graphic/tables that have been found. There is no utterance in the text book used. Meanwhile, based on characters education, there are only some indicators that have been found in the reading textbook, they are; tolerance, discipline, hard work, creative, love of homeland, friendly/communicative, sociable and responsibility. Unfortunately, some others have not indicated the character values yet, they are; religious value, honesty value, independent, democratic, curious, nationality spirit, achievement appreciation, peaceful, fond of reading, and care to environment. Referring to the problems in reading text, the products of this research is the development of reading textbook using multimodality; combination of some modes in communication; oriented to character education that can make students interested in reading process.

Keywords: reading textbook, multimodality, character education

1. Introduction

Character has the important role in education. Based on college education standard, character education demands the students to have pedagogic, professional and social skill. Learning material is needed to achieve character instructional purpose. Learning material is teaching aids that can be used to achieve instructional purpose maximally. Instructional purpose involves cognitive and academic skill (*hard skill*) and social skill (*soft skill*).

Ideally, the instructors in college need to improve the learning outcomes effectively and efficiently including cognitive, psychomotor and affective ability of the students. Based on the observation, it is found that the teaching and learning process in the college still not achieve the learning outcomes of the college yet. It can be seen from the students' hard skills achievement., students' hard skill in STKIP PGRI is still low in every semester especially in reading subject in English Department of STKIP PGRI West Sumatera. It is not easy for them to comprehend English text. Thus, they are

unmotivated to read the text because of several reasons. First, the students have lack of vocabulary in understanding the passage because some of the passages in the reading textbook consist of particular topic which they do not have background knowledge of it. Then, some of the students cannot concentrate while reading because the reading textbook used are not interesting for them.

Besides that, students' soft skill achievement is also still far from learning outcomes. It can be seen in the teaching and learning process in which some of the students not participate in the classroom activities. They tend to silence and not active in the discussion. Moreover, in the reading subject, they do not show their interest to read, not creative, weak in communication and use their critical thinking. Having good soft skills means having good hard skills.

Soft skills is needed in job life while someone has to have 82% soft skills and 18% hard skills (NACE,2005). It means soft skills is more important in working than hard skills. Moreover, based on the standard of college

curriculum Pasal 54 UU No 12 Tahun 2012 and Permendikbud No 49 Tahun 2014 in which one of college learning outcome is character education. Character education is one of government national education issue in UU No 20 tahun 2003 in which the function of national education is to develop students' ability and characters and also to develop students' potential characters such as responsibility, noble and religious. Hasan et al (2002) states that the aim of national education is to develop citizens' characters quality which is included in educational standard. It can be said that national education is the pillar of citizen characters building.

Based on the aim of national education, STKIP PGRI Sumatera Barat also develops the curriculum based on KKNI in which the learning outcomes has to have soft skills. It can be seen from each competency components such as pedagogic, professional, social and behavior competency components. Pedagogic and professional competency demands the students to have hard skills ability meanwhile social and behavior competency demands the students to have intrapersonal and interpersonal soft skills.

The reading material used in the classroom has not been able to create interactive teaching and learning process. It is caused by the materials used are monotone text. It means the material used in the reading book does not have interesting pictures and variation of writing. Meanwhile, the reading textbook used in reading subject does not motivate the students to achieve hard skills and soft skills ability. Therefore, it is needed to develop a reading textbook which can achieve hard skills and soft skills learning outcomes. It is needed to develop a reading textbook which has character education and using multimodality.

Multimodality is the utilization of some modes in order to develop material. The mode can be pictures, videos, colors, graphics, and figures. The development of reading textbook oriented to character education using multimodality which can help the educator to improve communication quality in learning. According to Callow (2013:11) multimodality is a theoretical perspective which emphasize to communication meaning which is done by using some modes started to writing, speech, pictures, voice, gestures, typography, moving pictures. Nowadays, the text used can involve complex interaction of writing, pictures and graphics elements so the meaning can be communicated through mode synchronization (Kress & Van Leeuwen, 2006:17; Walsh, 2012:1). The modes are combined to strengthens and complete the

written text in order to achieve the aims and context. Multimodality text means the comprehension of how the use of verbal and visual language are used in order to create dialogue involvement in the text which can be represented in the paper or electronic model and can use voice (Chen, 2010:486; Walsh, 2011:9).

Character education is a system of generation characters building through education that involve knowledge, willingness and action to do the values. Character building is the teachers effort to help the students in understanding, caring and behaving in accordance to aesthetics values in order to form students good behaviors (Elkinf & Sweet 2004; Ramli 2003). Based on the aims of national education, there are eighteen characters that should behave by the students; they are religious, honest, tolerance, discipline, hard work, creative, independent, democratic, curious, nationality spirit, love of homeland, achievement appreciation, communicative, peaceful, fond of reading, care to environment, sociable, and responsibility (Ministry Education 2010). Those characters should be acquired by the students in order to produce Indonesia characterized citizens.

Based on the problem above, this article discusses the reading textbook which is used in reading subject at English Department of STKIP PGRI Sumatera Barat. It is done to evaluate the textbook that has been used as the consideration of the development of reading textbook oriented to character education using multimodality in college.

2. Method

The design of this research is descriptive qualitative. In this research, the researchers analyze text book that was used by the lecturer in teaching reading. The researchers used document analysis as the technique of data collection and document checklist as the instrumentation. The data are analyzed qualitatively in which the researchers describe the reading textbook used in reading subject by using multimodality and characters education indicators. The reading textbook is compilation book taken from some of reading textbook which is arranged for fourteen (14) meetings.

3. Results

a. Multimodality

There are four indicators of multimodality, they are pictures, variation of writing style, graphic and table, and utterances (Callow, 2013; Walsh 2012). The reading textbook used at

English Department of STKIP PGRI Sumatera Barat in reading subject is analyzed based on those indicators. The results are explained below;

1) Pictures

Based on the results of documents analysis, it is found that there are some pictures in the book, but the pictures does not have color. The pictures used are black and white which are not interesting. Moreover, the picture used not in the text. The pictures were placed in the beginning of the chapter and it is used as brainstorming.

2) Variation of Writing Style

The result shows that the reading textbook used has variation of style such as italic and underline, but there is no bold and different font size and style in it. The italic and underline are used in order to emphasize the content of materials.

3) Graphic and Tables

The table is found in the textbook, but the textbook does not have graphic. Only three chapters have table. The table and graphic do not have color.

4) Utterances

Based on result of the document analysis, it is not found utterances in the textbook used in reading subject.

Based on the results, it can be said that there are three of four indicators of multimodality which are found in the reading textbook used at English Department of STKIP PGRI Sumatera Barat. They are pictures, variation of writing style and graphic and tables. However, there is no utterances in that textbook

b. Character Education

One of the national education aims is to produce characterized generation. Based on the Ministry Educational Curriculum 2010, there are eighteen characters that should be learnt and had by the students. Those characters are the indicator in analyzing the content of reading textbook used at the English Department of STKIP PGRI Sumatera Barat in reading subject. Each of character is explained as follow;

1) Religious

The result of document analysis shows that there is no religious value in the reading textbook. The texts and the exercises in the book not contain religious values.

2) Honest

There is no honesty value in the textbook. The text and the exercise do not reflect honesty value.

3) Tolerance

The result of document analysis shows that there is tolerance value in the textbook. It can be found in the form of simple sentences in context clues and major details topic. However, the it has not represented the tolerance value yet since it is only in the form of sentence.

4) Discipline

The discipline value is found in using punctuation topic. However, it has not reflect discipline value yet because it is only found in the form of a sentence.

5) Hardwork

The result of document analysis shows that hardwork value is found in a chapter which the topic is context clues.

6) Creative

The creative value is found in the context clues topic which is the material for meeting three and four. However, since the topic is using context clues, the explanation only in a form of simple sentence.

7) Independent

There is no independent value in the textbook. The text and the exercise do not reflect independent value.

8) Democratic

The result of document analysis shows that there is no democratic value found in the reading textbook.

9) Curious

There is no curious value in the textbook. The text and the exercise do not reflect curious value.

10) Nationality Spirit

It is no found nationality spirit value in the reading textbook used.

11) Love of Homeland

There is love of homeland value in the reading textbook which is found in understanding supporting details in a paragraph topic. Moreover, in that chapter, the topic talks about general ideas such as politics, biology and geography.

12) Achievement Appreciation

The result of document analysis shows that there is no achievement appreciation in the reading textbook

13) Friendly/Communicative

There is a friendly or communicative value found in the use of punctuation topic which is taught in the second meeting. The learning outcomes for the second meeting is the students are hoped to understand the use of punctuation in the text. However, the value only in a form of

simple sentence which is not reflect friendly or communicative value yet.

14) Peaceful

There is no peaceful value in the textbook. The text and the exercise do not reflect peaceful value

15) Fond of Reading

It is no found fond of reading value in the reading textbook used.

16) Care to Environment

The result of document analysis shows that there is no care to environment value in the reading textbook.

17) Sociable

There is sociable value found in the reading textbook used. However, the value only stated in the form of simple sentence which is not reflect the sociable value yet.

18) Responsibility

The result of document analysis shows that there is responsibility in the reading textbook which is found in the use of punctuation topic. However, it is only stated in the simple sentence.

The results show that there are eight values of character education which are found in the reading textbook. They are tolerance, discipline, creative, love of homeland, creative, hardwork, sociable and responsibility. However, there are no religious, honesty, independent, democratic, curious, nationality spirit, achievement appreciation, peaceful, fond of reading and care to environment found in the textbook.

4. Discussions

Textbook is one of learning material which plays an important role in teaching and learning process. Textbook helps educator in delivering the material and also helps the students in understanding and repeating the materials. The learning material used should achieve instructional purpose maximally which involves cognitive, academic skills (*hardskills*) and social skill (*soft skill*). Thus, the textbook uses should be interesting.

Based on the results, it is shown that the reading textbook used at English Department of STKIP PGRI Sumatera Barat is not interesting. This caused by the book only found some multimodality criterias. Multimodality is used to simplify the readers in comprehending the text being read. The result shows that the reading textbook used has three out of four indicators still it does not help the readers in getting the point of the text and motivate them to read the text.

Relating to the aims of Education Ministry that the learning outcomes of college has to have

characters education, the reading textbook used still not meet characters education yet. Based on the results, it can be seen that there are several of characters education that have been written in the reading textbook but it has not indicated the character values which are stated by Education Ministry. The character values in the reading textbook used has not conform character education because it only stated in simple sentence. The students cannot learn about character education through it. The character education should reflect in the text and exercise given in the textbook in order to make the students learn and develop good characteristics which are hoped by the aims of national education.

5. Conclusion

In conclusion, the researcher has founded some indicators of multimodality and character values in reading textbook. Here, the reading textbook have contents character values that is needed in education. Character education is one of the purposes of National Education where the students not only have academic skill or hard skill but also they have to have good soft skill in learning process.

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THE FORMS OF STUDENT VIOLENCE AT SENIOR HIGH SCHOOLS IN YOGYAKARTA

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Abstract

Violence might happen in a variety of contexts including violence in the family, schools, and society. This study aimed at describing forms of student violence found in the school context. This study used a qualitative approach through interpretive method to discover the meaning behind the actions of the students. This research was conducted in two schools, namely SMAN 10 and SMA Gadjah Mada Yogyakarta. The results showed that student violence was considered as a part of youth violence. Moreover, student violence has intensively increased. Student violence could be done individually or collectively. Student violence consisted of various forms, ranging from verbal violence to physical violence. Verbal violence performed by teasing each other. In addition, there was an intimidation done by the senior student to the junior student as a part of gang member acceptance. There was a gang known as SMUTEN at SMAN 10 Yogyakarta that has involved in fights among the schools. In the context of violence among schools, physical fights occurred as the result of provocation during sports competition among schools. Moreover, verbal and physical violence were frequently marked at Gadjah Mada Yogyakarta senior high school. In daily school life, students often speak harshly and expletives (misuh-misuh). However, according to the students and the teachers, students were used to do that as a symbol of intimate friendship. In addition, there was a gang named HOOLIGANS at SMA Gadjah Mada Yogyakarta that also involved in fights among schools. Not every student involved as a gang member and became the perpetrator of the violence, but student violence happened as the implication of the habitus of violence and capital possession of the students. There are kinds of social capital such as extensive social networking, and social support system. Additionally, there are also types of cultural capital in the form of courage and bravery which are achieved naturally from the family, the previous academic level at school (junior high school), and the previous school for transfer students.

Keywords: students violence, forms of violence

1. Introduction

The reality of student violence has raised some concerns. Ongoing student violence appears repetitive and cyclical in nature. Whereas schooling is ideally a vehicle for establishing character values. Vertices of pupil violence always exist among students. This study aimed at describing forms of student violence found in the school context.

Violence in school is a part of youth violence, even wider violence in the community. Youth violence is a behavior that may be a continuation of the previous period (childhood). Violence includes various behaviors such as bullying, slapping, punching, and use of weapons. Victims may suffer serious physical injury, social, emotional, and even death. Young people can be a victim, perpetrator, or witness violence (www.cdc.gov/violenceprevention).

Data showed that in 2007 5.5% of national high school students did not go to school because they did not feel safe at school or on their way to or from school. Another study found that as

many as 160,000 students went home early everyday because they were afraid of being bullied. Violence can cause physical injuries such as bruises, broken bones, head trauma and other serious injuries. However, not all wounds can be seen. Violence can also cause other effects such as depression, anxiety, and other psychological problems, including fear. According to Pedro Mateu-Galabert; Howard Lune (2003), teenagers do not fight in a vacuum, but in the selection of peer-group, gang, and group conflict, they reflect the organizational arrangements and the culture of the school and the environment. They need a gang affiliates for their own safety. Students are vulnerable to crime while away from school. In fact, living far from the school might be dangerous for some students. Society has a weak social control of its members.

Student violence is a part of youth violence. Young people, in relation to the generation of a society, are not only the agent in the redefinition of values. The term young people have demonstrated in defiance story or stories about

the protest. Society is also understood as devian behavior, which is out of the common values or of normative rules in a particular social environment. According to Bradley (Irwan, 2006) this occurs because: 1) there is a presumption that the value that we have in general should also be owned by young people (because of the learning process), so that when the value is not found, there would be some irregularities, 2) when we conducted a study of a heterogeneous community, a variety of categories such as gender, generations, classes have been intermingled into one.

Developing tolerance and the ability to prevent conflict have been spearheaded by many countries. The role of education is very important in developing the ability to promote peace. Training is a vital and effective media to raise awareness and abilities required to perform the action more equitable (Francis, 2006: 38). Training can be facilitated by the parties that are competent and committed to the prevention of violence.

Each school where students have experienced violence cases usually has different ways to cope with and handle. In some extent, there are schools that are so persistent in various ways repeatedly remind the students to solve problems without violence. However, several schools are losing authority in front of students (Hasballah M. Saad, 2003). Responding to the violent behavior of students, various parties often speak from the point of their own interests and are usually sporadic and not comprehensive. In addition, not many people parse the problem concretely by involving themselves in seeing the problems in the field.

The educational system reproduces all the more perfectly the structure of the distribution of cultural capital among classes (and section of a class) in that culture which it transmits in closer to the dominant culture and that the mode of inculcation to which it has resource is less removed from the mode of inculcation practiced by the family (Bourdieu, 1973:57). An institution officially entrusted with the transmission of the instruments of appropriation of the dominant culture which neglects methodically to transmit the instruments indispensable to the success of its undertaking is bound to become the monopoly of those social classes capable of transmitting by their own means, that is to say by that diffuse and implicit continuous educational action which operates within cultured families (often unknown to those responsible for it and to those who are subjected to it), the instruments necessary for the reception of its message, and thereby to confirm their monopoly of the instruments of

appropriation of the dominant culture and thus their monopoly of that culture (Bourdieu, 1973:58)

It is necessary to realize that not every violence can be directly observed. This issue is not merely about the physical action which is easy to investigate. In fact, the violence possibly occurs in the form of subliminal non-physical actions which are basically hard to detect (Irwan Abdullah, 2006). The subliminal violence involves psychological violence, verbal violence, and symbolic violence.

Bourdieu (Haryatmoko, 2014) defined symbolic violence as the invisible violence. In this case, the victim considers this type of violence is just a natural thing rather than violence. The effect leaves no physical wound. However, it will cause uncomfortable feelings and depression.

2. Method

This research used interpretive/qualitative approach to find out the meaning and intentionality of the action of the actor. This method required the researcher to do a careful analysis in order to gain detailed qualitative data so that a deep understanding on the subjects.

This research was conducted in two high schools in Yogyakarta, namely: SMA N 10 Yogyakarta and SMA Gadjah Mada. The subjects of this research are: school administrators, teachers, and students.

3. Findings and Discussion

a. SMA N 10 Yogyakarta

SMA N 10 Yogyakarta is included at the list of the risky state schools. Academically, it is at the low rank of new student enrolment using Real Time Online (RTO) system. The school does not have sufficient facility and is situated on a dense and hustle environment. In addition, the existence of Smuten makes the school more at risk.

The violence among students at the school happened in the forms of: mocking among the students, motorcycle destruction, mocking among supporters of sport team, and gang fighting. The cases which have been recorded by the teacher of guidance and counselling involve: bullying among the students and intimidation done by the seniors. Bullying and physical violence are considered as the most frequent violence happening at the school. The difference of dialects and the voice intonation are the causes of the violence.

There was a gang known as SMUTEN at SMAN 10 Yogyakarta that has involved in fights

among the schools. In the context of violence among schools, physical fights occurred as the result of provocation during sports competition among schools. Vandalism and the member of the gang have been decreased. The violence among schools rarely occurs. There is no students scratch their own uniform anymore. In addition, they still do convoy, yet can keep other schools calm.

b. SMA Gadjah Mada

SMA Gajah Mada has gained stigma and negative labeling because it is known as a gathering place for students who are wasted and marginalized. Most students in SMA Gadjah Mada is students transferred from other schools. The reason of this transfer is usually due to the problems they had from the previous school that they are returned to their parents. One of the cases that led students to be returned to their parents is their accumulation of foul reached 100 points.

Most students who feel "dumped" and transferred here make a very strong solidarity. Moreover, they cherish the greatness of Hooligans name. The great name of school is important to maintain the existence and to mark the identity of the students and the school itself.

GAMA (short term of SMA Gadjah Mada) students have such habit to hang out with other students sometimes with the alumni. Violences that stand out in GAMA are verbal and physical violence. In daily life, a lot of students are yelling and swearing often. According to students and teachers, it is a common thing taken as a joke; a symbol of friendship and solidarity. This happens among students, and between students and teachers. A number of cases of verbal violence occurred in SMA GAMA, even there was once that had to be handled by the police.

In the beginning of new school regulation, SMA GAMA students will go on a motorcycle convoy passing certain schools that have been planned as a sign that they own the region; in other words SMA GAMA students show their existence in front of other high school students. In each convoy, SMA GAMA students always prepare a 'weapon' in the form of a plank with nails. However, it depends on the situation that the 'weapon' is used or not.

Students' act of violent always happens because there are always new potential students who are ready to be recruited to the gang. The characteristics of students involved in school brawl such as: having the habit to act violently in the learning process, experiencing the fact that they cannot go on to the next grade, intimidating friends at school, and hanging out or going

around with their motorcycle after school often. Those students usually have low ranks at school, not because they are stupid but their spirit to learn is low and their time is wasted for less important thing than learning.

Moreover, verbal and physical violence were frequently marked at Gadjah Mada Yogyakarta senior high school. In daily school life, students often speak harshly and expletives (misuh-misuh). However, according to the students and the teachers, students were used to do that as a symbol of intimate friendship. In addition, there was a gang named HOOLIGANS at SMA Gadjah Mada Yogyakarta that also involved in fights among schools.

Students violence occurred partly because of competition among schools (school competitiveness), especially the competition among sport supporters (basketball, football, futsal) from each school, as well as competition between school gangs.

It is true that violence occurs even in educational practices (Abdul Munir Mulkan, 2002). It implies that education serves two roles yet contradictory. In the one hand, education is the instrument to spread out humanity values to decrease violence, but in the other hand, it can be the determinant and the arena of violence (Jamil Salmi, 2005). The violence among students is a reality to be concerned because it involves two contradictory concept. Attempts to minimize it is strongly needed.

4. Conclusion

Not every student involved as a gang member and became the perpetrator of the violence, but student violence happened as the implication of the habitus of violence and modality possession of the students. There are kinds of social capital such as extensive social networking, and social support system. Additionally, there are also types of cultural capital in the form of courage and bravery which are achieved naturally from the family, the previous academic level at school (junior high school), and the previous school for transfer students.

Student violence consisted of various forms, ranging from verbal violence to physical violence. Verbal violence performed by teasing each other. In addition, there was an intimidation done by the senior student to the junior student as a part of gang member acceptance.

Physical violence is the simple case to observe. However, non-physical violence is needed to get more attention. This subliminal

violence occurs frequently and potentially causes other kinds of violence.

Many parties have offered a variety of solutions for preventing and overcoming violence among students. But the root of the problem would have to be parsed first, so that intervention touches on a more extensive and comprehensive aspects.

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THE EFFECT OF EDUCATION ON POVERTY

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Abstract

The purpose of this research to know is there any influence of education on poverty levels in Indonesia. Poverty is one of the economic diseases that is very difficult to cure result in a person is not able to meet their needs. However, most people look at poverty as stigmatizing and humiliating experience that no one wants to admit that a person is considered poor, but one thing is that everyone did not escape their attention to poverty. Education is an important component in the development of human resources is widely recognized for poverty reduction. This study uses secondary data for the type of time series data were obtained from The Central Bureau of Statistics and National Team to Accelerate Poverty Form of education data is correlated with poverty data by means of simple regression test and a cross section consisting of 33 provinces, making it a panel of data or combined data that the combination of the time series data with a cross-section of data. Based on the data processing is carried out, the result that 61.7% of education has an influence on poverty. This means that there are other variables that affect the level of poverty. It can be concluded that the increase in the quality of education means that is born of human resources will be better quality and improve productivity expected to reduce the level of poverty in Indonesia.

Keywords: education, poverty

1. Introduction

Poverty is conventionally in terms of income (is the number of people below the poverty line) and is measured in different ways, especially in terms of income, inability to raise the necessary (Tilak, 2002). Some indices were developed in the literature related to the phenomenon shows that the poverty line is defined at the national level.

Poverty is one of the main issues of interest to the government. According to the Central Bureau of Statistics, Indonesia's poverty rate has fluctuated, but not significantly. The last 6 years data obtained in 2008 showed that the poverty rate stands at 34.96 million and a row up to 2010 decline. In 2011, the poverty rate fell to 29.95 million, while in 2012 the largest number 28.86 million and in 2013 dropped to 28.31 million (CBS, 2014). The opinions expressed in poverty Robert Chamber (2010) explains that poverty is a unitary concept (integrated concept) that has five dimensions, namely: 1) Poverty; 2) Lack of empowerment (Powerless); 3) address vulnerability to emergency situations (state of emergency); 4) dependency; 5) Insulation.

Limit financial capacity shows the level of poverty just published by the World Bank, made a number of people who are poor will be more and more. World Bank review and emission of economic level that are poor that were never made in the last quarter century. Limiting the

word 'poor', according to the World Bank is that if a person's income is less than \$ 1.9 or Rp. 25,000 per day. If it is calculated as a monthly salary, then salary of less than Rp. 750,000 per month will be declared as the poor, and this limit will make the highest level of poverty in the world. Previously, the poverty threshold is in the range of \$ 1.25, or Rp. 16,250 per day set by the World Bank in 1990. And to increase human welfare, the World Bank raised the minimum income threshold to indicate the level of poverty to 1.9 dollar. (Buchanan et al., 2016)

The increase in the number of the poverty level will increase the number of poor in East Asia, Latin America, South Asia and Africa. For the African region alone, the increase in the level of this calculation does not change the number of poor in the region that currently amount to 416 million poor people with less than \$ 1.25 a day. South Asia is the region most affected by the increase of the poor population that previously only 7 million people, to 407 million people. The poverty rate also increased in Latin America, which previously only had 157 million people rose to 293 million people fall into the poor. (Clemens, et al, 2016) .

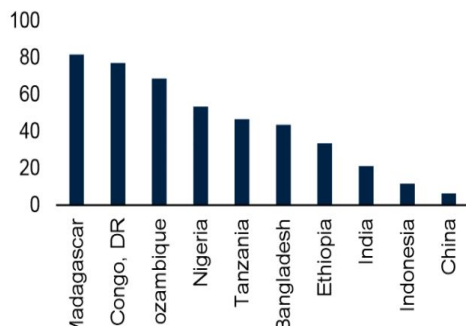


Figure 1 The Poverty Rate Varies Greatly Among The Top 10 Countries with Largest Number of Poor

Indonesia ranks ninth in the list of countries with the largest number of poor people in the world. Similarly, according to data from the World Bank. Madagascar is ranked as the country with the highest number of poor. Followed by Congo, Mozambique, Nigeria, Tanzania, Bangladesh, Ethiopia, India, Indonesia and China. (www.economy.okezone.com)

The World Bank found that about 10 percent of the world's population will suffer acute poverty for the first time by the end of 2015. The World Bank mengestimastikan whether the number of the world's poor would be 702 million people by 2015, or Approximately 9.6 percent of the world's total population today. In 2012, all that 12.8 percent of the 902 residents live in absolute misery. Global financial institutions set the standard by counting the number of poor people, who originally USD1.25 were USD1.9. This reflects inflation and the prevailing energy prices. (Eichenauer, 2016)

The World Bank also reported increased poverty in the countries of the southern African desert region. The International Monetary Fund (IMF) reported a decline in the growth rate of the world economy. Economic growth in several countries in Asia and Africa is negative, and the member countries of the European Union is in the zero percent range. It should be underlined whether investments are needed in education and social security programs to reduce poverty around the world. (<http://bisnis.liputan6.com>)

Poverty is one of the economic diseases that is very difficult to cure. Poverty leads a person is not able to meet their needs. Based on Law (UU No. 24 of 2004), poverty is the socioeconomic condition of a person or group of people who do not fulfill their basic rights to maintain and develop a decent life. The approach adopted to address the problem of poverty is one of satuny is in terms of education. Education can change

the way of thinking, in which through education for someone to achieve a great deal of knowledge, science and information are constantly evolving. Through education, people can relate to their environment. (<http://indonesian.tribe.ir>) According to Sumitro (1994) in Fitriana (2014), he has said that education is a prerequisite for improving human dignity. Through education, citizens have the opportunity to develop their skills and adjust appropriately.

According to Bullock, Williams, and Limbert (2008), apart from marriage, education is one of the most common ways to achieve upward mobility. Bettie (2002) found that high school, people recognize the importance of higher education, especially to college. However, Higginbotham and Weber (1992) found that although the family emphasized the importance of getting an education, they often seemed to differ from expectations. For example, compared to individuals who grew up in a middle-class family, they received less emotional and economic support from their families.

In addition, for the poor, the value of education often does not translate into operational objectives. In particular, the individual can not have access to educational resources, or resources available and difficult to obtain. (Lichter dan Crowley, 2002).

Poverty

One of the indicators of well-being in the field of education is an indicator of the number of people who declare to read and write. This indicator reflects the ability of residents in an area to access facilities, public services, and other facilities that require reading and writing skills, including the job search requirement (Suryawati, 2004). The greater the number of people who can read and write, the greater the ability of the public to access the facility or facilities to improve their well-being.

The poverty line is an indicator of poverty that establishes that the average expenditure of food and non-food per capita in the reference group (reference population) has been established (CBS, 2014). The reference group is defined as a resident of a marginal class, ie those whose lives are considered to be slightly above the poverty line. Based on the CBS definition, the poverty line can be interpreted as a minimum consumption limit of marginalized groups that are in the reference income is slightly larger than the lowest incomes. In principle, the poverty line indicator measures the ability of incomes to meet basic needs / basic measure or minimum, the purchasing power of people in an area.

Consumption is intended to include the poverty line of consumption of food, clothing, housing, health and education.

The opinions expressed in poverty from Robert Chamber (2010) explain that poverty is a unitary concept (*integrated concept*) that has five dimensions:

a. Poverty (Proper)

The problem of poverty as well as in the original view is the inability of income to satisfy basic kebutuhankebutuhan. The concept or idea is true not only in the group that does not have an income but can also apply to a group that already has an income.

b. Powerless

In general, low income capacity will have an impact on the social (social) energy forces of a person or group of people, especially in obtaining justice or the right to a decent life for humanity

c. The vulnerability of an emergency situation (state of emergency)

A person or group of people called the poor do not even have the capacity to deal with unexpected situations in which this situation requires the allocation of income to complete. For example, a situation of vulnerability, such as natural disasters, health conditions that require relatively expensive medical expenses, and other emergency situations that require inadequate income capacity. Conditions in poverty are considered to be incapable of coping with this situation.

d. Dependency

Limited ability of income or social power of a person or group of people called the poor had led up to the level of dependence of others is very high. They do not have the ability or power to create a solution or solution to problems primarily related to the creation of new sources of income. You need to help another part to overcome problems primarily related to the need for a source of income.

e. Isolation

The dimensions of alienation as predicted by Chambers is the factor of location that causes a person or group of people to be poor. In general, people call these poor are located in areas away from economic growth centers. This is due to the fact that most welfare services are more concentrated in centers of economic growth, such as in urban areas or in large cities. People living in remote or inaccessible areas in relative welfare services have a low

standard of living so that these conditions cause their poverty.

Under the conditions of poverty that is seen as a form of multidimensional problem, poverty has four forms. As for the four forms of poverty (Suryawati, 2004):

a. Absolute poverty

Absolute poverty is a condition in which a person or group income was below the poverty line and therefore not sufficient to meet the standard needs for food, clothing, health, housing and education Necessary to improve the quality of life. The poverty line is defined as the average or average expenditure of consumption for basic needs in relation to compliance with welfare standards. Forms of absolute poverty is the most widely used as a concept to determine or define the criteria for a person or group of people called poor.

b. Relative poverty

Relative poverty is defined as a form of poverty that occurs due to the influence of development policies that are not reached to the whole society that cause the inequality or inequality of norms of well-being. Areas not reached by development programs of this type are generally known as less-favored areas.

c. Cultural Poverty

Cultural poverty is a form of poverty that occurs as a result of the attitudes and habits of a person or people who generally come from a culture or customs are relatively unwilling to improve the living conditions of the modern form. Habits like these can be lazy, spender or never save, less creative, and relatively dependent on other parts as well.

d. Structural Poverty

Structural poverty is a form of poverty caused by lack of access to resources, which usually occurs in a social order or socio-political culture that is less support for the liberation of poverty. Such forms of poverty also sometimes have discriminatory elements.

Education

Education, as noted by Harbison and Myers (1965), is difficult to isolate the causal effect of education. Many theoretical debate on the role of education in economic development and economic growth if productive educational in an economic sense. There is much evidence that the level of education of the population is highly correlated with the level of economic development in order to avoid poverty.

Tetapijika's causality goes from income growth to the expansion of education, and this is still discussed.

The theory of human capital establishes that education creates skills that facilitate a higher level of productivity among those who have against those who do not (Schultz, 2007). Education at a high cost to bring associated benefits that can be compared to costs in the same way as with the investment project.

To support the above assertion, human capital theory holds that there is a strong and empirically verified positive relationship between all people between wages and salaries that people in the workplace and the level of education they receive. According to the "normal" market hypothesis of labor and competitive goods, it showed that those with higher levels of education seem to have averaged a higher level of productivity (Schultz, 2007).. Employers use education as an indicator of the suitability characteristics and potential productivity of their employees. The most educated age benefit not only from the highest levels, but rose rapidly to peak compared to the earnings of employees with lower educational level profiles. In fact, employees who have no education tend to have income remained relatively stable throughout life. It is said that these patterns indicate not only education makes people more productive, but also improve the ability to learn on the fly, making productivity and meretaskan poverty, therefore, income will increase at a faster rate Fast than for those who have an education that is missing.

Education is a form of investment in human resources. The level of education also affects the level of poverty because education is a component that is emphasized in the cause of the vicious circle of poverty. One way to achieve this is through compulsory basic education, which the government translates into the nine-year compulsory education program.

The level of education is the indispensable element that the HDI (*after purchasing power*). HDI (Human Development Index) International uses as an indicator of well-being and development success in a region or country, so high and low levels of health education (*as measured by literacy rate*) will affect the HDI in overcoming poverty.

The relationship of education and poverty

Education in Indonesia has many types, ranging from formal, non-formal and informal education. Here is an explanation of each every type of education in Arlen Etllng: (a) Formal education is a systematic, multilevel / level

process, starting from primary school to university and is on par with, (b) Informal education is a process that lasts all ages so that each person values gain, attitudes, skills and knowledge that comes from the experience of everyday life, environmental influences, including the influence of family life, relationships with The neighbors, work and play environment, markets, libraries and media, (C) Non-formal education is any organized and systematic activity, outside the school system independently or in an important part of the broader activities, deliberately made to serve specific students in achieving the learning objectives. Higher level of Culture education or abbreviated as TPT is the percentage of the population, which are still in school or out of school, according to the highest education had been reached higher. TPT to demonstrate the achievement of educational development in an area. TPT is also useful for planning the job offer, especially to see the titles of studies of the workforce in the region.

Agung Eddy Saputro (2010) In his research revealed three main factors affecting poverty is the employment factor, educational factors and housing factors. Poor educational outcomes of the poor can not compete with the non-poor to work in a formal job, so the poor do not tend to work or to work in the agricultural sector, and work with informal employment status. Low educational factors caused by the cost of education is very expensive, so since society often second priority to education in high tinggat as the cornerstone of society is how to find money for day to day life. Level of education is a positive function of income level, education is the first step in the development process and the basis for improving socio-economic conditions in a country, where it is necessary to train all the necessary instruments poorer communities a By establishing a positive attitude and making them more productive in penelitiaannya revealed three main factors affecting poverty is the employment factor, educational factors and housing factors. Poor educational outcomes of the poor can not compete with the non-poor to work in a formal job, so the poor do not tend to work or to work in the agricultural sector, and work with informal employment status. Low educational factors caused by the cost of education is very expensive, so since society often second priority to education in high tinggat as the cornerstone of society is how to find money for day to day life. Education level is a positive function of the income level, education is the first step in the development process and the basis for improving the socio-economic conditions of a country,

where it is necessary to train all the necessary instruments more impoverished communities through Establishing a positive attitude and making them more productive. (Thapa, 2013)

Two research in social sciences in economics, found no relationship between economic variables and education. Educational research has the consistent underlying socioeconomic status is an important factor of educational outcomes, and this research has identified education greatly affects productivity. Poverty is not just the absence of financial resources. According to (Amartya Sen, 2001) poverty is the lack of capacity to function effectively in society. Inadequate education can be seen as a form of poverty. Absolute poverty or lack of adequate resources can be found in developing countries with poor nutrition, health, circumstances of origin (lack of facilities for learning or the environment outside of school) and education of parents.

Education can reduce poverty in a number of ways. First, people who are more educated are more likely to get a job, more productive and earn more income. Second, although international literature found no simple relationship between the level of education and a country's economic growth, a recent study showed that the quality of education adjusts important for economic growth. Good education can boost economic growth in poor countries and thus generate economic opportunities and income. Third, education (especially women) to bring the social benefits that improve the situation of the poor, such as low fertility, improve children's health, and the participation of women in the labor market. (Connell, et al, 1994)

Background residency is the most important factor influencing educational outcomes. Poverty is closely correlated with a variety of other variables in a household, such as parental education, so it is difficult to distinguish between limited financial resources in the context of other households. Londoño and Gemmelt (1996 in the journal Thapa, 2013) found that lack of education has become the most important factor in economic growth and therefore decrease inequality and poverty. Gemmelt found that primary education is more important for economic growth in low-income developing countries, secondary education for middle-income developing countries, and higher education for rich countries.

Lack of educational resources in poor schools sometimes impede learning. Economic incentives are good teachers often prefer to teach in schools are more qualified. The combination

of resources is also important, without good textbooks or classroom resources, more teachers can not improve the quality of learning. Education and learning are recognized as an essential component of the development and poverty reduction process. In many developing countries, the problem of access to education, and the quality of education has diidentifikan as a prerequisite for achieving the goals of physical education, building. Education helps to reduce poverty by influencing labor productivity. (Aref, 2011)

Poverty occurs due to low incomes and less education (Thapa, 2013: 148). Education is the formation of human capital (human capital) in economic development, but it is also a form of long-term investment. The quality of human resources will be increased by investing in education, it is demonstrated by the increase of knowledge and skills that support a person to be more productive in improving their well-being and avoiding poverty. The level of education also affects the level of poverty because education is a component that emphasized the causes of poverty. One way to achieve this is through a government program that will nine years of compulsory education.

2. Method

This study uses secondary data for the type of time series data during the period 2008 to 2013. Data required in this research are secondary data obtained from the Central Bureau of Statistics and the national team to accelerate poverty In the form of education data is correlated with poverty data by means of the simple regression test and a cross-section consisting of 33 provinces, which is a panel data or pooled data than the combination of the series of Data times (2008 to 2013) with a cross-section (33 provinces).

The variables of this study consisted of exogen and endogen variables. Exogen variables are independent variables, while the endogen variable is the dependent variable. The variables used in this study were two variables :

- a. Variable education (X) are classified as exogen, and acts as the independent variable is the variable that affects diversity other variables in the model;
- b. Variable poverty (Y), classified as an endogen variable, and serves as the intermediate variable (variable intervening) is the variable that diversity is influenced by other variables in the model.

Data analysis begins with a descriptive analysis, which statistics used to analyze data has been collected as unintentional conclusions or generalizations (Sugiyono, 2012: 29) to generally accepted. We used processing data using SPSS version 21.0 and the simple regression analysis model to analyze the pattern of the relationship between variables in order to determine the direct and indirect effects of a set of independent (exogen) variables on the dependent variable (Endogen) (Riduwan and Engkos, 2008: 2).

The test of the model and the calculation of the coefficients first, made by the formulation of hypotheses:

Hypothesis: significant educational impact on poverty reduction in Indonesia

Model: The analysis used in this research is simple regression established by

$$Y = a + bX$$

where Y is poverty and X is the education, a is a constant and b is the coefficient of X.

3. Result

Data processing on poverty and education in the period 2008-2013 with a simple linear regression were processed using SPSS version 21 described in the following table:

Tabel 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.833 ^a	.694	.617	1,60017

a. Predictors: (Constant), education

Table 1 shows the correlation (R) to 0.833 with the coefficient of determination (R²) of 0.694 implying that education has an influence on poverty, 61.7%, while the remaining 38.3% Influenced by other factors.

Tabel 2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23,208	1	23,208	9,064	.040 ^b
	Residual	10,242	4	2,561		
	Total	33,450	5			

a. Dependent Variable: poverty

b. Predictors: (Constant), education

Table 2. explains that there is a significant (significant) effect between education and poverty Fcount figures show 9,064 greater than Ftable 5.05 in 5 df (N-1) with a significance level of 0.04 or probability of less than 0.05 Level of

confidence) which means that the model used to predict educational regression against poverty.

Table 3. Coefficients^a

Model	Unstandardized Coefficients		Standardize Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	94,73	21,226		4,46	0,011
education	-0,247	0,082	-0,83	-3,01	0,04

a. Dependent Variable: poverty

In Table 3 is a constant (a) is 94.733 while the keofisen (b) value of education is such that the regression equation -247 can be described:

$$Y = 94,733 + (-247)X$$

in which Y is poverty and X is education, so that from the constant equation previously can be translated amounted to 94,733 states that if there is no education, the poverty of 94,733. The regression coefficient of -247 education states that education will reduce the poverty rate to - 247.

Table 3 also describes the results of significance tests with the t test to determine the actual effect of poverty terhadap educational level. -3,011 yang known tcount is lower than ttable 7.71 with df = 4 (2008-2013) and the significant value of 0.001 which is less than 0.05, which means that there is a significant (significant) education effect on the levels of poverty.

4. Discussion

The results of this study are relevant to the results of previous studies by Thapa (2013) with a clear analysis concluded that the level of education is a positive function of reducing poverty levels. Subsequent studies (Lacour and Tissington, 2011) establish the relationship between student achievement in poverty education and the prosperity of the student's family. Londoño (1996) argues that inadequate education has been the most important factor holding back Latin American economic growth and thereby sustaining high levels of inequality and poverty. Gemmelt (1996) finds that primary education is most important for economic growth in low income developing countries, secondary education for middle income developing countries, and tertiary education for rich countries. Compared with the Aref (2011) study results across groups shows that there are some structural barriers in the education system with

regard to rural poverty reduction in rural areas, so the impact is negative or rejected the hypothesis. Gans (1995) commented that, although education is considered one of the most reliable forms of poverty, education times the second option; In other words, for people of lower socioeconomic status can only be a little to take advantage of education, due to the opportunity should include access to schools and the best teachers.

5. Conclusion

Education is recognized as a component in the process of development and poverty reduction. In many developing countries, the issue of access to education, equality and quality has been identified as a prerequisite for the achievement of development. Education helps reduce poverty by affecting labor productivity. Developing the world in this era of globalization is demanding changes to a better national education system and capable of competing fairly in all fields. One way in which it should be done to avoid raising the Indonesian population with other countries is to improve the quality of education in the first place. With increasing quality of education means born of human resources and the better will be able to increase their productivity, which is expected to reduce the level of poverty in Indonesia.

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The author is fully aware that this research is still far from perfect. Therefore, the authors apologize if there are errors in the writing of this research. We appreciate criticism and suggestions for improving similar research in the future. With luck the author, this research can be useful and can be positive for all those in need.

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TRADITIONAL GAMES BASED ON NEUROSCIENCE LEARNING FOR CHILDREN WITH BEHAVIOUR EMOTIONAL AND SOCIAL DISORDER

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Abstract

This paper examines science theoretically with literary methods that aim to provide insight into the traditional game-based neuroscience learning for children with behavioral emotional and social disorders. Based on some previous research results, character education can be directed also to children with behavioral emotional and social disorders. The physiological state of child behavior and emotional disorders basically have central nervous system dysfunction resulting in psychological responses in the form of behavior that tend to deviate such as personality disorder and social interaction. Traditional games based on Neuroscience learning develop problem-based learning elements, simulation and role playing, active discussion, visual display, positive climate. Traditional games contain elements of physical activity, so it is also possible to affect the secretion of hormones that trigger improvements in the mood of children such as endorphin hormone, serotonin, dopamine. The impact of this will then affect the behavioral and emotional conditions of children, for example because of the influence of the increased secretion of various hormones so that it may be able to suppress behavioral and emotional disorders in children. Some previous research results suggest that the adaptation of these mechanisms will be able to overcome problems with behavioral and emotional disorders so that children are more controlled emotional and social side. Based on the problem analysis with theoretical studies it can be concluded conceptually that the traditional game activity based on neuroscience learning can be used for children with behavioral emotional and social disorders.

1. Introduction

Children with behavioral emotional and social disorders have characteristic emotional and behavioral disorders both individually and socially. Aini Mahabbati (2013: 5) explains that children with behavioral emotional and social disorders based on their type are defined as children with emotional and behavioral disorders that include: 1) conduct disorder / CD (behavioral disorder), 2) oppositional defiant disorder (ODD), 3) other types of emotional disturbance. Various forms of behavioral disorders can be overcome with sports activities. According to Jennifer I. Gapin, et al (2013: 7) in his research journal that physical activity (sport) have a positive effect on changes in behavioral disorders of children. Children with behavioral emotional and social disorders need to get special treatment because if untreated it can lead to a condition that affects the mindset and behavior of children with behavioral emotional and social disorders difficult to control. As mentioned in Sherwood in Akmarawita Kadir (2012: 1), the response to untreated behavioral disorders will

cause stress, if the body meets with a stressor, the body activates the neural and hormonal responses to carry out defensive measures to reduce stress inflicted.

Sports activities can improve behavior because it affects hormones and chemicals on the neurological level. According to Ratey in Rachmah Laksmi Ambardini (2009: 72) explains that physical exercise has a tendency to increase levels of glucose, serotonin, epinephrine, dopamine. The chemical component is known to have an effect on the behavioral setting. In connection with these problems the condition of children with behavioral emotional and social disorders have a performance disability element in the central nervous system, the disorder affects the tendency of aggressive nature or temperament. According to Andri Kusumawardhani (2007: 124), several researchers in the field of neurobiology and psychopharmacology have deep approaches to brain function, neurotransmitter, genetic, and neuroendocrine, concluded that serotonergic and brain regions that trigger and be directly involved in impulsive and aggressive behavior in

people with behavioral disorders. Related to that, Pamuji Sukoco (2016: 4) explains that character education through traditional games can serve as a stimulus that can cope with special needs children including tunalaras in improving from aggressive, opposing, and other behavioral disorders.

Based on the background exposure mentioned above, the authors want to reveal study theoretically learning model in the form of application of traditional games as a means of character education in the optimization of behavioral and emotional changes of children tunalaras.

2. Discussion

Characteristics Children with behavioral social and emotional disorders

General characteristics of children with behavioral social and emotional disorders described by Hallahan et al (2009: 4), that there are four dimensions are: 1) Chaos behavior, 2) Often anxious and withdrawn, 3) Less mature, and 4) Aggressive in theocialization .Nandiyah Abdullah (2013: 6) provides a classification of children social behavior disorders including psychotic and neurotic children, children with emotional disorders and delinquents (delinquent). Based on the source of the occurrence of behavioral disorders social behavior is classified into: (1) Emotional, that is deviation of extreme social behavior as a form of emotional disturbance, (2) Social, that is deviation social behavior as a form of abnormalities in the social adjustment because it is functional.

More detailed characteristics are described I.G.A.K Wardani, et al (2007: 31-32) that the characteristics of children with behavioral and emotional disorders into three aspects, among others:

1. Academic Characteristics

Behavioral disorders of children with behavioral and emotional disorders imply on the barriers of achievement of learning outcomes below the average child of the same age. Children with behavioral and emotional disorders have a lazy tendency to learn and want to do something as they wish.

2. Social and Emotional Characteristics

Characteristics of social children with behavioral and emotional disorders influenced emotional characteristics. Social character is usually characterized by causing harm to others, with characteristics: behavior is not accepted by the environment and usually violates the norms in family, school, peers, and society. The

emotional character is characterized by an aggressiveness that causes disruption to his or her friend.

3. Physical Characteristics and Health

Physical Characteristics and Health are not much different from children in general, but if the child's side of aggressiveness is high, it affects the health patterns of eating disorders, sleep disorders, and obscene trends (not paying attention to health).

Physical Education of Sport and Health

Helmy Firmansyah (2009: 42) defines physical exercise and health education as a learner's activity to improve motor skills and functional values that include cognitive, psychomotor, and affective, so that through these activities are expected to learners can grow and develop healthy physical. Please note that physical education activity seen from three aspects of cognitive, psychomotor, and affective. The earliest process of these three aspects is cognitive aspects related to brain development in learners. Affective behavior and psychomotor movement are based on whether or not the brain performance through neural responses. This means it is important for educators to know the performance system of neurons (nerve cells) for improving psychomotor movement and affective behavior of learners. The general picture of the effect of exercise on behavior change is described as follows:

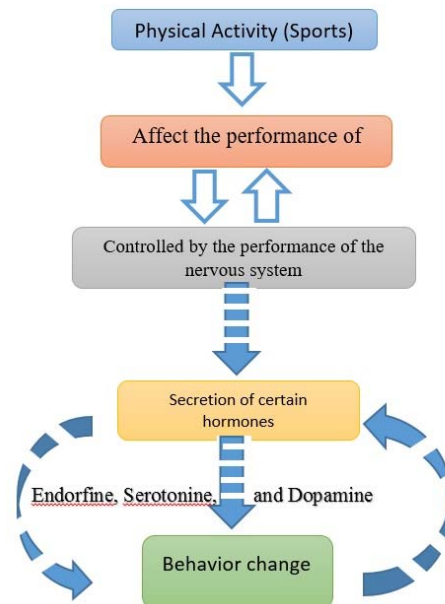


Figure 1. General Mechanism of Behavioral Change due to Physical ActivityLaurale Sherwood (2013, 128-136)

In figure 1 above, it is generally described by Laurale Sherwood (2013, 128-136), in general that a properly managed exercise (sport) activity will lead to a series of mechanisms in affecting organ performance centrally. The existence of changes in organ performance can not be separated from the control of the central nervous system (Central Nervous System / CNS). These activities take place as an effort of the body in response to stimuli due to physical activity (exercise). As a result, when the homeostatic system is in this state of stress, the body responds to stressors in the form of negative feedback by activating other system mechanisms, such as stimulating the secretion of some hormones that specifically have certain roles and functions to help maintain the body's homeostatic condition. According to Rachmah Laksmi Ambardini (2009: 6-7) the secretion of some hormones such as norepinephrine, serotonin, and dopamine are thought to have an effect on psychological changes such as behavior because the hormone can improve mood (psychological atmosphere).

The mechanism of communication between neurons

Physical activity involves a series of mechanisms of organ systematic performance in a systematic way the mechanism is inseparable from the control of the central nervous system from biochemical communication of the body. Related to this case Rachmah Laksmi Ambardini (2009: 68) explains that physical activity involves the performance of nerves in the brain electrochemically. Along the nerve fibers, the impulse flow runs electrically, due to the difference in ion levels inside and outside the cell. In synapses the nerve communicates chemically through a neurochemical chemical called a neurotransmitter.

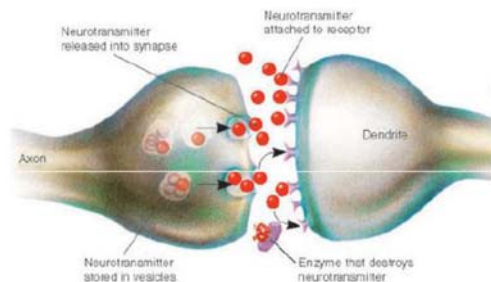


Figure 2. communication between neurons

Rachmah Laksmi Ambardini (2009: 68) Ratey in Rachmah Laksmi Ambardini (2009: 6-7) describes three major neurotransmitters related to physical activity, as follows:

1. Norepinephrine, serves to improve mood, intrinsic motivation, and confidence, improve perception, and cellular level learning. It is said, acute or chronic physical exercise can increase norepinephrine brain.
2. Serotonin, regulates mood, controls impulses, creates confidence, counteracts toxic effects of stress hormone levels, and improves learning at the cellular level.
3. Dopamine, physical exercise is said to affect the synthesis, release, and retrieval of dopamine. Dopamine increases during motor behavior. The greater the intensity, the greater the increase. Regular exercise can increase the amount of enzymes that make dopamine and alter the work of dopamine in the postsynaptic membrane.

Traditional Games

According to Agus Mahendra (2007: 4), the traditional game is a form of game and or sport activities that develop from a certain community habits. In subsequent developments the traditional game is often used as a type of game that has characteristics of the original regional and adapted to local cultural traditions. Hakimeh Akbari, et al. (2009: 126), traditional games contribute effectively to character formation in learning through manipulative and locomotor motion skills. In this regard, traditional games are thought to have a positive effect on the improvement of character education in schools.

In general, traditional games in Indonesia have begun to experience a shift by modern games. As a result not too many types of traditional games that still survive or sustainable (awake) until now. Traditional games in Indonesia are spread from Nanggroe Aceh Darussalam Province to Provinces in Papua. In particular, traditional games in the Special Region of Yogyakarta and Central Java are allegedly still potentially sustainable (awake) in the middle of society, such as gasing, egrang, gobak sodor, patok lele, kasti, jamuran, and cublak suweng.

Optimizing traditional games based on neuroscience learning

Physical education is divided into three domains: cognitive, psychomotor, and affective. The earliest process of the three domains is cognitive related brain development, it is because affective behavior and psychomotor motion sourced on whether or not the brain performance through neuron response (nerve). Learning is based on neuroscience learning approach that occurs dominant in the left hemisphere learners.

According to Dale H. Schunk (2012: 89), educational practices of neuroscience learning approaches include: problem-based learning, simulation and role playing, active discussion, visual appearance, and positive climate.

Children's learning generally uses psychomotoric and affective approaches only, but children with behavioral and emotional disorders should be accompanied by a neuro learning approach. It is known that the condition of children with behavioral and emotional disorders have a disruption in neurons, shown by child behavior disorders such as the emergence of aggressive behavior, opposing, and other behavioral disorders. Therefore, physical education of children with behavioral and emotional disorders can occur optimization if there is implementation of learning approaches neurosciences learning through traditional games to respond to stimulation on psychomotor so that there is improvement of child's motion and affective to behavioral and emotional changes in the positive direction. The description of the Optimizationalization of Traditional Games based on neuroscience learning of children with

behavioral and emotional disorders such as figure 3. follows:

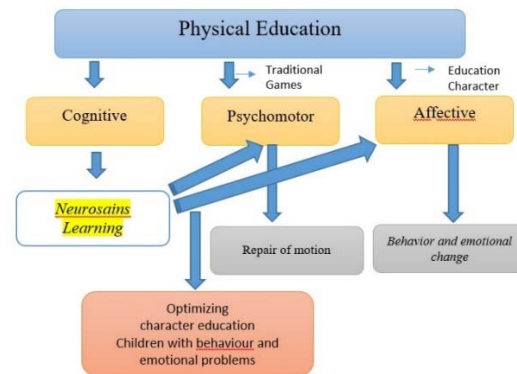


Figure 3. Optimizing traditional games in physical education

Traditional game activity based on neuroscience learning for children with behavioral and emotional disorders, can be made more detailed application described as Figure 4. below:

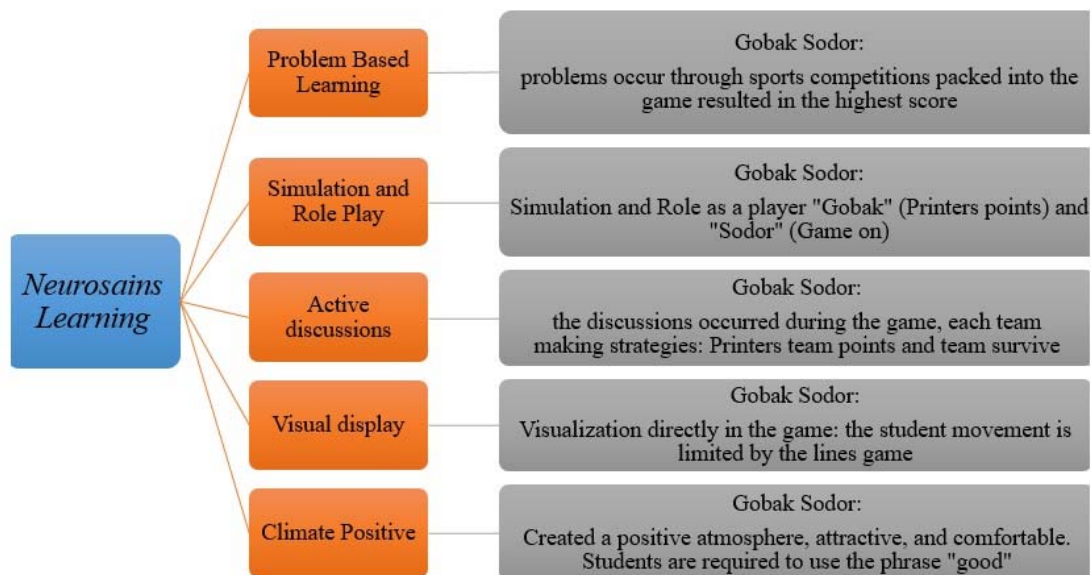


Figure 4. Implementation Scheme Neurosciences through the traditional game "Gobak Sodor"

3. Conclusion

Learning optimization occurs through the contribution of synergy between traditional games with neuroscience-based learning. The adaptation of these mechanisms can reduce behavioral disorders in children with behavioral

and emotional disorders so that children are more controlled emotional and social side. In this regard, it can be concluded that traditional game activity based on neuroscience learning can be used for children with behavioral and emotional disorders.

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DEVELOPING A FAIRY TALE BOOK BASED SAINSMATIKA FOR ELEMENTARY SCHOOL STUDENTS

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Abstract

Book is one of the most factor in supporting success on learning process. This paper discussed about developing a fairy tale book based on sainsmatika. This fairy tale book is designed to presents interesting tale with integrative learning of science and mathematics. This book assist student in engaging real activity through problem-solving activities, experiments, exercises, test, and explain science and mathematics context. The purpose of the research is to develop fairy tale book based sainsmatika which using valid. Developing a fairy tale book through five stage. The first stage is research and information collection that is need analysis with questionnaire, observation, interview, and document analysis. Planning, to know basic competencies and indicator. The third stage is develop preliminary product, this stage to product validation from expert. The validity of research development involves material validator, media validator, and linguistic validator. The result from the validation of fairy tale by expert is found that the overall result have a very good rating. Of a score range of 1 to 5 likert scale, the material validation show a mean score 4,65, the media validation show a mean score 4,81, and the linguistic validation show a mean score 4,73. This show that the fairy tale book based sainsmatika is valid and feasible to be implemented in the learning process for elementary school.

Keywords: book, fairy tale, sainsmatika

1. Introduction

Education in Indonesia is formulated into four main levels namely preschool, primary school, secondary school, and high school. Basic education or commonly referred to as Education in Primary School is the level of education that must be taken by Indonesian children before going to junior high school. Primary School is a system of national education organizers in charge of laying the foundations of knowledge, skill, and values. So, it is very important as a stepping stone process at the beginning of a person to get the basic concept of true knowledge, life skills, character building which are relevant to current life and the future.

The statement above is in accordance with the national educational function as stated in Law number 20 Year 2003 that "National education functions to develop the ability and form the character and civilization of a dignified nation in order to educate the nation, aims to develop students' potential to become human beings who believe and devote to God the Almighty, have a noble character, healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens". In order to realize the function and purpose of education, the implementation continues to make changes and development to a better direction from time to time as an example

a curriculum revitalization policy from KTSP into Curriculum 2013. To support the implementation of the Curriculum 2013, the government has prepared teaching materials in the form of textbook as teacher's handbooks and teacher manuals. Overall, the Primary School teacher's manual contains some aspects such as Core Competencies (KI), Basic Competencies (KD), learning objectives, learning activities and assessment. While the students' primary school textbook contains lesson materials and exercises to be taught on each theme.

However, start from its publishing in 2013, the textbook continues to be revised from the government because its weaknesses and shortcomings. As the results of the analysis conducted by researcher on Friday, June 10, 2016, researcher found some weaknesses in the textbook for students of class IV, including: (1) the material explanation contained in the book is very limited; (2) the composition of the lesson content presented is unbalanced, more inclined towards a particular learning content; (3) incomplete learning indicator only leads to the achievement of students' concept of understanding not toward high-level thinking yet; (4) the presentation of exercise and evaluation is very limited, not even all the content of the lesson is presented about the exercise and evaluation.

The result of the analysis of the fourth-grade book turned out to illustrate the fact that also occurred in schools, as perceived by fourth graders in state elementary schools in Danurejan District. Based on the interviews conducted to 10 students at Lempuyangwangi State Elementary School and 10 students in Lempuyangan State Elementary School I on June 18, 2016, obtained a statement that according to them the theme of the book is indeed interesting in the terms of appearance, but they feel the textbook materials presented incompletely and the activities presented are limited so they are not optimal in facilitating the achievement of basic competencies and learning indicators. Furthermore, based on the results of the interview, it revealed 17 of 20 students like stories and lesson elements in the textbook very much. The story they love is an adventure fairy tale, so their great hope is the presence of an adventure fairy tale book contains the subject matter.

Along the research finding process, the results of a questionnaire given to 100 fourth graders of Lempuyangwangi State Elementary School and Lempuyangan State Elementary School I on June 19, 2016 also provide evidence that 100% of students stated the book is very important in supporting their learning process, 91% of students loved the adventure book, 88% of students liked books containing many pictures and writings, and 98% of students wanted an adventure fairy tale book contains learning materials and exercises.

Diana Mitchell conducted a children-like-to-read survey in 2010 and she found that most children liked to read adventure, fiction, and imagination textbooks. In their developmental stage, elementary school students need more imaginative books that have a storyline, so they expect to have experience and find knowledge through a fun and adventurous process of imagination when they read. This can be obtained when children read fictional readings, such as fairy tales. Therefore, there should be interesting teaching materials such as fairy tales to support learning in their textbook.

Science and Math learning are two of the important highlights because the two lessons are deemed most difficult and low in achievement by students compared with others. As based on the results of interviews and document studies in Lempuyangwangi State Elementary School and Lempuyangan 1 State Elementary School obtained the facts of the lowest score of all subjects are on science and math lessons even some students has score below KKM as Criteria Completed Minimum, therefore special attention

is needed on both subject in order to learn optimally. One of the programs to optimize is developing teaching materials in the form of fairy tale book based *sainsmatika*.

Teaching materials is one of the supporter elements to facilitate teaching and learning process. The Ministry of National Education (2008: 6) explains that teaching materials are all forms of materials utilized to assist teachers in carrying out teaching and learning activities. It means that the teaching materials are arranged systematically so that it can support the students' learning process in which there are students' achievements as well as some guidance that can lead to the desired achievement. Teaching materials can be either written or spoken depends on the learning needs. Prastowo (2014: 138) defines teaching materials as all materials (whether information, tools, and texts) systematically arranged which displays the complete figure of competence to be mastered by learners and used in the learning process for the purpose of planning and reviewing the learning implementation. For example: textbooks, modules, hand outs, worksheets, models or replica, audio teaching materials, and interactive teaching materials.

Teaching materials that will be developed in this research is a textbook. The book according to Sitepu (2012: 13) is a collection of papers containing information, printed, and arranged in a systematic, boundary, and exterior with a protective sheet made of thick paper, cardboard or other material. In this case, the book as a teaching material should be systematic, and leading to the achievement of competence that is in accordance with the curriculum. Referring to these provisions, the developing fairy tale book based *sainsmatika* must also be systematic and support the achievement of learning objectives.

A fairy tale, according to Haerkötter (2002: 168) through the Germany as follows: *Das Märchen ist eine kurze, frei erfundene Erzählung, die weder zeitlich noch räumlich gebunden ist noch Wirklichkeitscharakter besitzt; Vielmehr ist sie voller phantastischer Ereignisse, die sich gar nicht haben ereignen können, weil sie gegen die Naturgesetze verstoßen*. The tale is full of fantasy occurrences of miracles. Thus, the reader can bring his mind to his own fantasy world freely unbounded by the setting of place and time through the fairy tales. So a fairy tale is a book that contains literary works in the form of fantasy stories to illustrate the image of the metaphor of life. It also provides opportunities for students to imagine as well as internalize the message of knowledge and life values are reflected in it.

The tale can give its usefulness through the story told. Kready (2004) reveals that fairy tales bring joy in the children life. The pleasure is not only to be felt, but to have an effect on the physical health, mental development, and moral value. Kilic (2015) reveals the result of his research is children can reflect their sensitivity to consider toward their environment through the imagination they get from the fairy tale. Indirectly, the sensitivity will encourage the emergence of child curiosity to the problems that occur in the environment. They will take their part as an agent who wants to help to solve problems in the environment as part of the exemplary influence they get from the fairy tale.

Sainsmatika is an idea that starts from a desire to integrate the content of science and math lessons as a whole and comprehensive subject. By adopting integrative thematic styles in the Curriculum 2013, *sainsmatika* brings a mission to facilitate students in understanding science and mathematics subjects deeper by assuming that science and mathematics are the excellent study at this time.

In its position as content of lessons, science and mathematics can be studied in an integrative way to be more interesting through the developing a fairy tale book based *sainsmatika*. It can be a learning material to support the implementation of science and mathematics learning in an integrated and optimal ways. Marpaung (2012) assured this idea that science is fun, many ways to learn it like reading a book. The students can learn Science through textbooks and fairy tales book. Thus the fairy tales book can be a means of delivering knowledge such as material about science, so that students not only learn Science through formal media such as textbooks, but can through as fun as fairy tales.

The developing a fairy tale book based *sainsmatika* that has its potential as a teaching material has several potential advantages among others: (1) developed based on the achievement of basic competencies and indicators of science and mathematics learning, (2) presents illustrative images with interesting figures, (3) presents the experiences of science and math fairy tales (4) presents a challenging and problem-solving, (5) presents experiments guideline to facilitate students practice concretely, (6) present the material of science and mathematics completely in accordance with basic competencies and indicator learning. Contents of science-based fairy tales are (1) fairy tales; (2) illustration drawings; (3) now I know; (4) I will try; (5) I will observe; (6) I will practice; (7) I can conclude; (8) this is my collection. Therefore, it can be concluded that the science-

based tale book is an educational tale book that presents an adventure story to study the content of science and mathematics lessons in an integrated manner. It contains imaginative stories, interesting illustrations to make learning materials easy to understand and can be well conveyed and clear to students.

The book as a teaching material presents in the education room must require some mandatory criteria that can ensure the book is really worthy of use both in terms of content and physical. The standardization is intended to accommodate the meaningful changes in the development of science and technology as well as the on-going curriculum. According to the Ministry of National Education (2008) the criteria of instructional materials should meet the following aspects: (1) Content Aspects, namely (a) Competency standards appropriateness, and basic competencies; (b) Conformity with the development of children, (c) The appropriateness of teaching materials need, c) Truth learning materials, (e) Benefits to add insight, (f) Conformity with morals and social values. (2) Linguistic Aspects, namely: (a) Readability, (b) Clarity of Information, (c) Conformity with good and proper Indonesian language rules, (d) Utilization of language effectively and efficiently. (3) Presentation Aspects, namely: (a) Clarity of the objectives (indicator to be achieved), (b) Performance order (c) Provision of motivation, attractiveness, (d) Interaction (provision of stimulus and response), (e) Completeness of information; (4) Design include Aspects: (a) Use of font (type and size), (b) Layout, (c) Illustrations, drawings, photographs, (d) Display design.

Therefore, in this case, a developing fairy tale book based *sainsmatika* can be considered feasible if it has fulfilled the following aspects: (1) Providing material aspects that include: material completeness, material accuracy, activities that support the material, material matters, critical thinking skills and curiosity facilities, organizing scientific systematics materials, and using notation and symbols; (2) Having media covering aspects: Cover (cover of the book), Preliminaries (preliminary pages), Text matter (main part), and Postliminaries (cover); (3) Language Aspects that include: conformity with spelling standard rule, simple sentences, effective sentences, unbiased sentences, easy to understand vocabulary, clarity of meaning, accuracy of word selection, clarity of sentences, alignment of foreign terms, language style, letter clarity, And punctuation, clarity of instructions, ease of reading

comprehension, text order), and language suitability with supporting images.

Based on description above, it can be formulated that the problem of the study is how to develop a fairy tale based *sainsmatika* for the fourth grade of elementary school. The purpose of this study is to produce a worthy fairy tale book based *sainsmatika* for grade 4 elementary school students.

2. Method

This research is Research and Development (R & D). According to Borg and Gall (2003: 569), "Educational research and development is an industry-based development model in which the findings of research are used to design new products and procedures ..." Research and development research in education is a research model used to design new products and working procedures. It means that research and development in this case oriented to design products, develop, and validate products for quality and appropriate in the world of education.

Borg & Gall (2003: 570) describes the steps of research and development as follows: (1) Research and Information Collecting; (2) Planning; (3) Development of Product Design (Develop Preliminary Form of Product); (4) Preliminary Field Testing, (5) Main Product Revision, (6) Main Field Testing, (7) Revision of Product II (Operational Product Revision), (8)) Operational Field Testing, (9) Final Product Revision, and (10) Dissemination and Implementation.

Dealing with this R & D research, the researcher produced a product in the form of fairy tale book based *sainsmatika* for fourth grade students of elementary school that will be validated by material experts, linguists, and media experts before the initial field trial. It applied value of feasibility of fairy tale book based *sainsmatika* at least get "B" with the criteria of "Good". Thus, if the results of the expert of learning media, learning material, and the linguist are "B" or "Good" then the developed product is feasible to be used as instructional material of learning.

3. Results

The results of this study is producing a worthy fairy tale book based *sainsmatika* for grade IV elementary school. The results of media and material experts and linguists' validation obtained as follow:

Aspect	Average Score	Standard Score	Criteria	Judgement
Media Experts	4,81	3,00	Very Good	Worthy
Material Experts	4,65	3,00	Very Good	Worthy
Linguist Experts	4,73	3,00	Very Good	Worthy

Figure 1. Validation Results

According Figure 1 validation results can be illustrated on diagram.

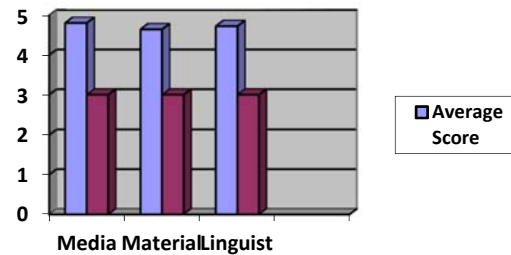


Figure 2. Diagram Validation

4. Discussion

Based on the figure, it can be concluded that the average media validation score is 4.81 included in category A which mean it has a very good predicate. Related to the standard value of feasibility applied in this study is at least get "B" with the criteria of "Good", so it can be seen that the fairy tale book based *sainsmatika* has been declared feasible by media experts. They give some suggestions as follows: (1) the colour of the table in the glossary section should be in a lighter and contrast with the text colour; (2) adding a table of contents in the beginning page of the story, and (3) adding the title of the story to the beginning of the story.

A good book is where the readers can hear, feel, and see in it (Saxby, M., 1991: 30). To realize those three aspects, there must be foundations to build the book formation. They are book cover, preliminaries (preliminary pages), text matter (main part), and postliminaries (cover section). For book cover, Nurgiyantoro (2013: 92) conveyed that the cover design consists of images and text should be seen persuasively related to a particular scene in the story content. The cover image should be attractive with suitable colours and illustrations. Illustrations are needed to beautify the book so it enthusiasts the child to read it. The cover type used for is hardcover, consider to the target that will interact factually, so the book should be resilient. According to Rachmawati (2004), the good preliminaries (preliminary pages) include: title page, table of contents, list of images, table

list, introduction, and preface. The main section consists of detailed descriptions of each chapter, sub chapters accompanied by examples of exercises to be completed by learners, while cover pages consist of attachments, literature, answer keys, and glossary.

Furthermore, the development of fairy tale book based *sainsmatika* also get a worthy description of the material experts, it is proved by the average validation score which is 4.65 from scale 5 and belong to the category of Very Good. The material experts provide some suggestions among the following: (1) the text type should be consistent, (2) each picture is given information to be clearer, and (3) exercises need to be added.

Aspects that are used as a reference assessment by the material experts are: (1) the completeness of the material; (2) material accuracy; (3) activities that support the material; (4) the recent material; (5) critical thinking skills facility; (6) curiosity characters facility; (7) the scientific system material organization; and (8) the use of notations, symbols, and units. The material raised in this book is science and mathematics. Its concept is started from a desire to integrate science and mathematics in its entirety and thoroughly, so that it is literally Science-Mathematic integrated in an essential theme. *Sainsmatika* is the continuity of integrative thematic concepts applied in Curriculum 2013. Prasetyo (2016) also affirmed that learning with an curriculum integrated will motivate learners to learn because the learning of integration is relevant to the needs and development of children and follow the principles of constructivism. Thematic learning is a learning whose development begins by defining a particular topic as a central theme or topic. Once, the theme is established then it is subsequently used as the basis for determining the basis of sub-themes from the field of study (Fogarty, 1991: 54). Therefore, in thematic learning there is one theme that became the basis for the materials development or sub themes that are connected to each other.

The development of fairy tale book based *sainsmatika* is also considered feasible by linguists. The average validation score in this study reached 4.73 from scale 5 which means it is Very Good. Linguists give some suggestions about the background selection for improvement should not be too crowded for the text to read clearly.

The language used in children's literature including fairy tales must be communicative and easy to understand by them. It means that the message is to be conveyed by the author through fairy tales can be conveyed well to the child. The

suitability of the language should pay attention to spelling standard rule. It does not contain double meaning, effective, and easy to understand. In this case, Nurgiyantoro (2013: 88) writes that the language in the story for children should be simple, both in terms of lexical, structure, discourse, or designated meaning. Some of the aspects that linguists assess are: (1) language conformity, (2) language use, and (3) language readability.

Based on the three experts' validation, it can be obtained the average validation score of the development of fairy tale book based *sainsmatika* as a whole is 4.73 which is included in the category of Very Good and declared eligible for using in grade IV of elementary school learning and teaching process.

5. Conclusion

A worthy fairy tale book based *sainsmatika* in grade IV primary school learning has received a proper statement from media experts, material experts, and linguists that is with a minimum worth of "B" with the "Good" criteria. Based on the results and discussion it is known that the science book has been declared eligible by the experts where the media experts score is 4.81 of scale 5 included in the category of very good, the material experts give 4.65 from scale 5 so that categorized very well, and also it has been declared feasible with a score of 4.73 from a scale of 5 that also belongs in very good category.

The researcher suggests such as for grade 4 primary school teachers and students. For the teachers are expected to be able to use fairy tale book based *sainsmatika* on learning to support the content of science and mathematics lessons. For students, they can use fairy tale book based *sainsmatika* according to the directions and in order to make them enjoy the learning process well.

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DEVELOPMENT OF LEARNING MATERIALS ON THE SUBJECT OF STATIC FLUID ASSISTED FLIP BOOK MAKER

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Abstract

Less the maximum utilization of the technological sophistication of current impact on the learning materials used in the learning process in schools still haven't been fullest. Especially in MAN 1 Banjarmasin, the available facilities are already adequate, but it is used which is not yet effective. This research aimed to describes the validity, the practicality, the effectiveness of learning materials assisted Flip Book Maker. This research is a research and development which refers to the ADDIE model. The subject of the trial is a student of Class XI IPA 3 1 MAN in Banjarmasin. The data obtained through the sheet validation of media and materials, sheet observations lesson plan implementation, and learning outcomes test. Research result showed, (1) the category of validity learning material is valid, (2) the category of practicality learning material is very well, (3) the category of effectiveness learning material is effective or high. Conclusion of the research that the learning material on the subject of static fluid assisted Flip Book Maker is eligible to used.

Keywords: learning material, static fluid, flip book maker.

1. Introduction

The development of science and technology increasingly encourages renewal efforts in the utilization of technology results in the learning process. Teachers are required to be able to develop teaching materials in accordance with the media to be taught. So through the utilization of media in the learning process is expected to optimize the quality of learning and student learning outcomes [1].

Advancement of science and technology in the media, very influential on the preparation and implementation of learning strategies. As Lee and Owen (2000) that the use of technological media not only facilitates and streamlines the learning process but also makes learning more interesting [2].

Teachers as an educator are required creativity to be able to arrange innovative teaching materials and can attract students' attention. Harvest (2011) states that teaching materials are all kinds of learning materials are arranged systematically that can be used teachers and students in the learning process [3], in the form of: learning implementation plan (RPP), student activity sheet (LKS), test Learning outcomes (THB), and teaching materials.

However, teachers use only simple or conventional teaching materials in the learning process, such as material that is delivered only by lecture method. The teacher can freely speak the length and the students calmly, carefully, and while noting the important points that are

conveyed when the teacher delivering the material monotonously in front of the students. But on the other hand, the lecture method can lead to low quality of learning because it can make students become bored while listening to the end that decreases student learning interest [4]. lack of creativity in creating innovative teaching materials makes the quality of learning to be low when educators are only fixated on conventional teaching materials [3].

Based on the observation of physics learning process in MAN 1 Banjarmasin found that there is no teaching materials that can attract students' attention and the use of conventional aids. It has an effect on the lack of interest of students in following the subjects. Whereas, if using the existing electronic media to create teaching materials that are taught to be more interesting, the student interest will rise to follow the lesson certainly. The teaching needs to observe to interests and needs, because both of them will be the cause of attention. "Something that interests and needs learners, will attract attention, so they will be serious in learning" [5].

Therefore, with the development of teaching materials assisted flip book maker is expected to attract the attention of students in teaching and learning process. Because this application makes learning interesting, with unusual appearance so learning is more fun and innovative. Flip book maker is an application that can change the look of Portable Document Format (PDF) file, Microsoft Word, Excel, and Power Point (PPT) become more interesting that

can make it like a book. The end of result can be saved in .swf, .exe, .html format [6]. With the application of flip book maker this can make the presentation to be interesting and by applied into the learning is expected to make the learning process will also be interesting and innovative, so it can get students' attention. This is in line with research conducted [7], states that the media learning of flip book is effective to improve student learning outcomes. And the development of Flip Book Maker oriented e-module media can develop students' math problem solving abilities [6].

Based on the above description it is necessary to effort developing a teaching material assisted flip book maker that can attract students' attention. In this study developed physics teaching materials assisted flip book maker on static fluid teaching materials.

The general problem formulation how is the Feasibility of Teaching Material Flip Book Maker on Static Fluid Discussion Class XI in MAN 1 Banjarmasin ?The purpose of this research is to develop Flip Book Maker assisted teaching materials that are suitable for learning process, in terms of validity, practicality, and effectiveness.

2. Method

The research is conducted of research development. The steps in this development study are using the ADDIE development model. The stages of activities that contained in the ADDIE model are consist of analysis, design, development, implementation, and evaluation [8].

Research subject of this research is teaching materials that using Flip Book Maker especially teaching materials, the object of research is the feasibility of teaching materials viewed from the validity of teaching materials that is the validity of media, materials, RPP, LKS, and THB, the practicality of teaching materials and the effectiveness of teaching materials. The subject of the test is class XI IPA 3 MAN 1 Banjarmasin academic year 2015 / 2016. The location of the research at Jalan Pahlawan, Kampung Melayu Darat, Banjarmasin. The research begins from February to June 2016.

The research instruments used in the study are as follows: (1) validation sheet, to know the validity of the teaching materials that will be tested. Includes validation sheet of RPP, LKS, Media, THB, and Flip Book Maker-Oriented Material, (2) RPP Activity Sheet, to know the practicality of teaching materials that have been

made, and (3) learning result test, to measure the effectiveness of developed teaching materials.

The test design in this study used one group pretest and posttest [9] as follows:

$$O_1 \quad X \quad O_2 \quad (1)$$

where:

O_1 = pretest (preliminary test before learning with flip book maker assisted teaching material)

X = apply learning with flip book Maker assisted teaching materials

O_2 = posttest (final test after learning with flip book-assisted teaching material)

The data obtained from the validation of RPP, teaching materials, LKS, THB, and media were then analyzed by comparing the average score of the academician and practitioners' assessment, and compared with Table 1 for the assessment criteria [10].

Table 1. Criteria of learning device validation aspect

No	Interval	Category
1	$X > 3,4$	Very good
2	$2,8 < X \leq 3,4$	Good
3	$2,2 < X \leq 2,8$	Enough
4	$1,6 < X \leq 2,2$	Less
5	$X \leq 1,6$	Very less

The data result of RPP implementation is used to know the practicality of the developed teaching material. The implementation of the RPP contains are the steps for the teacher should do, the score that the observer should be given based on the existing assessment guidance and the observer's suggestion. Percentage of overall RPP implementation is obtained by using the following equation:

$$\text{Implementation of RPP} = \frac{\text{skor perolehan}}{\text{skor maksimal}} \times 100 \% \quad (2)$$

For the criteria of the implementation of RPP [11] can be seen in the table below.

Table 2. Criteria of implementation

No.	Percentage	Category
1.	76 – 100	Very good
2.	51 – 75	Good
3.	26 – 50	Enough
4.	$X < 26$	Less

The effectiveness of learning is measured from the test of learning outcomes by performing pretest and posttest, to find out the improvement of students' cognitive learning outcomes is

determined using the normalized gain (N-gain) [12]. For the effectiveness criteria of student argumentation skill can be seen in Table 3 as follows.

Table 3. Criteria for learning effectiveness

No	Value	Criteria
1	$\langle g \rangle \geq 0,7$	High
2	$0,3 \leq \langle g \rangle < 0,7$	Medium
3	$\langle g \rangle < 0,3$	Low

3. Results

The results of the analysis of Flip Book Maker assisted teaching materials consisting of RPP, teaching materials, LKS, and THB can be seen in Tables 4,5,6,7, and 8.

Table 4. Result of RPP Validations

No	Aspect assessment	item number	Validator score		average
			1	2	
1	Aspect of format	5	18	19	18,5
2	Aspects of language	3	9	11	10
3	Aspect of content	17	59	61	60
Total		25	86	91	88,5
Average			3,44	3,64	3,54
Validity			Very valid		

Table 5. Result of teaching materials validations

No	Aspect assessment	item number	Validator score		Average
			1	2	
1	Aspects of format	7	24	23	23,5
2	Aspect of language	19	60	60	60
3	Aspect of content	11	37	36	36,5
4	Aspect of presentation	17	56	55	55,5
5	Aspect of benefits	2	6	6	6
Total		56	183	180	181,5
Average			3,09	3,18	3,24
Validity			Valid		

Table 6. Result of LKS validation

No	Aspect assessment	item number	Validator score		Average
			1	2	
1	Aspect of format LKS	6	20	22	21
2	Aspect of language	3	11	11	11
3	Aspect of contents	7	19	23	21
Total		16	50	56	53
Average			3,13	3,50	3,31
Validity			valid		

Table 7. Result of learning outcome test validations

No	Aspect assessment	item number	Validator score		Average
			1	2	
1	General construction	8	28	29	28,5
2	Validation item	15	56	58	57
Total		23	84	87	85,5
Average			3,65	3,78	3,72
Validity			Very valid		

Table 8. Result of learning media validation

No	Aspect assessment	item number	Validator score		Average
			1	2	
1	Aspect of presentation	2	7	8	7,5
2	Aspect of implementation	3	10	10	10
3	Aspect of media completed	2	6	6	6
4	Aspect of media design	2	6	8	7
5	Aspect of full view	1	4	4	4
Total		10	33	36	34,5
Average			3,3	3,6	3,45
Validity			Very valid		

To Know the practicality of teaching materials using Flip Book Maker can be seen in the implementation of RPP observed by two observers. The results of the analysis of the implementation of RPP can be seen in the following:

Table 9. Result of analysis implementation RPP

No	RPP	Percentage	Criteria
1	RPP 1	86,84%	Very good
2	RPP 2	85,00%	Very good
3	RPP 3	85,37%	Very good
4	RPP 4	83,13%	Very good
The overall average		85,08%	Very good

The effectiveness of the teaching materials is reviewed through the test of learning outcomes. The results of the analysis using the gain test can be seen in the table below.

Table 10. Result of average gain

Average gain	Criteria
0,70	High

4. Discussion

The expedience of physics-assisted teaching materials Flip Book Maker viewed from the validity, practicality, and effectiveness. This is based on the opinion of Nieveen [13] states in the development process, the main criteria used to meet the quality of development is validation, practicality, and effectiveness. Validity of teaching materials used in terms of expert validity, practicality of teaching materials through the implementation of RPP, and the effectiveness of learning through student learning outcomes.

Based on table 4 above, the results of RPP validation as a whole show that the result of validation assessment of learning implementation plan which includes aspect of assessment of RPP format, language and RPP contents included is in category very valid. As explained in Permendiknas no. 41 of 2007 on Process Standards for Basic and Secondary Education Units, that each teacher in an educational unit is obliged to formulate a complete and systematic RPP as disclosed Adyatma [14] in order that the learning takes place interactively, inspiration, fun, challenging, motivating students to participate actively, And provide sufficient space for initiative, creativity, and independence in accordance with the students' physical, physiological talent, interests, and development. The results of the assessment with good category in each category indicate that the components of the compilers RPP has been met correctly, so it can be concluded that the RPP appropriate and it is reasonable as a teaching material.

Based on table 5 above, the results of the whole validation show that the results of the validation of teaching material which includes aspects of the format, language, content, presentation and benefits are included in the valid category. The material has been made in accordance with Daryanto [15] which states that the subject matter is prepared and presented in such a way that the readers are expected to absorb the material themselves. Thus the material that has been made has a match to other devices so

that the teaching material with Flip Book Maker is worthy to be used to the students in the learning process.

Table 6 shows that the result of the validation of LKS covers the aspects of the LKS format, the language aspects, and the content aspects are categorized as valid. The results of the assessment by the validator with very good criteria in each category and the validity of the entire LKS has a valid category indicates that the developed LKS have good quality, so it can be concluded that LKS developed valid used as a supporter of learning.

Table 7 shows that the overall THB validation assessment results include general construction aspects as well as validation of items in highly valid categories. The test result of learning that has been made in accordance with the statement Purwanto [16] which states that made THB able to measure students' mastery of the material taught by the teacher or studied students. A good THB issue must meet the requirements that have validity and reliability. The test question said to be valid is when it is used to (measure) the skills of students who can measure the skills it should be. The highly valid THB proves that the test developed is able to measure what is desired [17], and can reveal data from the variables studied appropriately [18]

In Table 8 it can be seen that the results of the whole validation show that the results of the assessment of learning media validation covering aspects of assessment of variation of presentation, implementation, media completeness, media design and overall look included in the category is very valid. The results of the assessment with good category / valid in each category shows that the components contained in the media has been met correctly, so it can be concluded that the media developed appropriate and appropriate for use as a medium of learning because according to Sudjana [1] can be a teaching tool Support the use of teaching methods that teachers need. Because of the position of the media as one of the efforts to enhance the process of teacher-student interaction and student interaction with the learning environment.

Based on Table 9 it can be seen that the value of the implementation of the RPP given by 2 observers for four times the average overall percentage meeting of 85.08% was stated to be very well executed. This means developed learning materials that can be used with realistic setup [13].

The effectiveness of teaching materials can be seen through the test of learning outcomes. Based on table 10 on the criteria of the

effectiveness of learning outcomes, the test results that have been tested tested high categorized. From the results of the analysis can be known THB instruments can be said worthy of use because the problems are made in accordance with the purpose of learning. Warsita [19] states "the effectiveness of learning is often measured by the achievement of learning objectives". The use of flip book maker media can increase learners' learning interests and can also affect student achievement or learning outcomes. The use of Flipbook can also improve understanding and improve the achievement of learning outcomes [20]. This is also supported by Searmadi & Harimurti [21] research that the application of flipbook innovation as a learning media can improve learning outcomes.

5. Conclusion

Based on the results of the experiment, it can be concluded that: Flip Book Maker assisted teaching materials on the static fluid discussion is feasible to use. Based on the findings data as follows:

The validity of instructional materials using Flip Book Maker is categori valid for teaching materials and LKS, and highly valid for RPP, THB, and teaching media.

Practicality of teaching materials using Flip Book Maker categorized very well.

The effectiveness of teaching materials using Flip Book Maker is effectively categorized.

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DO STUDENTS NEED THE ENGLISH SPEAKING PROGRAM?

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Abstract

Innovation in education plays an important role to increase the quality of life. English speaking program in a private senior high school becomes one of the innovations. This is caused by when students are fluent in English, they can be more confident in facing the future, at least they will not worry to read English literature. This study aimed to evaluate the discrepancy between desired standard and the actual performance. Desired standard for this program is letting students to speak English and minimize the using mother tongue. Participants of this study were three students of English speaking program class. They were interviewed one by one. The result of this study showed us about there is discrepancy between desired standard and the actual performance from the regulation of using English in a class. Students just worked with their worksheet based on some observations. They did not speak English except while they read the text in the worksheet. The instructor stated that this was caused by students who asked for it. For last, stakeholders should supervise the English speaking program in order to achieve the objective.

Keywords: discrepancy, speaking program, innovation

1. Introduction

Language is a tool of communication. There are a lot of languages in the world, one of them is English. English becomes a lingua franca. Lingua franca is the language which can be understood by people which has different language for daily conversation as stated by Hynninen (2016). For example, if you meet people from different country like Japan, you cannot speak Japanese, then you can speak English so that you can communicate with them.

The impact for using English as a lingua franca is people should speak English, learn about both language and culture, and also reading some English literature. That is why people or at least students in Indonesia should mastering English.

The government has worked for that. This means that they make a rule about how English should be taught. Unfortunately, Indonesia is a country which makes English only as a foreign language. Foreign language means that English is only taught in the classroom. Students do not have obligation to speak English outside the classroom. That is why some students in Indonesia cannot speak English fluently.

The English learning should be taught as right as possible. This means that teacher should find the right or the suitable technique to teach the students. Brown (2001: 275) stated that teacher should find out the technique which can fulfill students' need. Besides that, students should be given a chance to have interaction by using English both passive and active. The most

important one is the active interaction by using English (Richards & Rodgers, 2001)

To overcome this situation, one of senior high school in central java has English speaking program. The aim of this program is to train students to speak English. However, this program has not been evaluated. The evaluation of the program is the important thing to be done. This is caused by when a program has been evaluated, people will know about the strength and weakness of the program (Irambona & Kumaidi, 2015). Then, the policymaker can decide whether the program should be continued, need a revision, or should be stopped.

There are some model evaluation which can be used to evaluate the program namely CIPP, Kirkpatrick, Countenance Stake, Discrepancy, and many others. Each model evaluation can be used based on the aim of the evaluation. This study use discrepancy model evaluation. Discrepancy model evaluation is the model evaluation which want to know is there any discrepancy between desired standard and the actual performance (Kaufman & Thomas, 1980). The aim of this study is to find out the discrepancy between the standard and the real situation.

2. Method

This study was held in one of senior high school in central java. Data was gathered qualitatively by using interview from different participants. Three students were interviewed one by one. The interview question is about is there any discrepancy between the desired

standard and the actual performance. Besides that, to confirm about what participants said, the instructor was also interviewed. The observation was done as an additional data. The data analysis of this study consisted of three phases namely data reduction, data display, and conclusion drawing/verification (Miles & Huberman, 1994).

3. Result

Actually, there are some standards from this program, namely instructor should write a lesson plan which is appropriate to standard, instructor should deliver the material by using English, Instructor can speak another language just to confirm the meaning, and instructor let the student to speak English as often as possible.

a. **Instructor writes a lesson plan which is appropriate to the standard.** Based on the document analysis, instructor has written the lesson plane which is appropriate to standard. This can be seen from the analysis of document. Researchers compare the lesson plan and the standard.

b. **Instructor should deliver the material by using English.** Based on the interview, instructor just spoke English while reading a text in the textbook. This can be seen from the interview below,

Instructor only spoke English while reading text in the textbook. He did not speak English after that.

Another participant also mentioned that

Instructor spoke Bahasa while delivering the material. Students spoke English while instructor asked for us to read the text.

Then, researcher confirmed it to the instructor, he mentioned that students did not ready for that. This means that if instructor speak English during the class, students did not get the meaning as mentioned below

If I did that, students will be bored and did not get the meaning.

This can be concluded that instructor understand the situation of the class so that he decided not to use English.

This was happened may be caused by the supervisor who never came to the class while program. This can be seen from the interview with the participants

Supervisor never came to the class while program.

Based on the observation, instructor did not speak English except the text in the textbook. This minimized the chance to speak English for students actually.

c. **Instructor speak Bahasa to confirm the meaning only.** This was never happened based on the observation and interview. One participant stated that

In the class, instructor speak Bahasa except the text in the textbook
Another participant also mentioned that
Instructor spoke Bahasa during the class, he only spoke English while reading the text in the textbook but he confirmed the meaning when we did not know the meaning of the text.

However, the instructor confirmed the meaning of the text.

d. **Instructor let students to speak English as often as possible.** Based on the observation, during the class instructor only worked with the textbook. This minimized the chance for students to speak English. Insctructor stated that

Students asked for that. This means that the students wanted to work with the textbook whereas that textbook is for their homework so that I cannot make them to speak English in the class.

Actually, this can be overcome if the instructor be more creative. This means that instructor should create the situation which is really fun for students so that they want to speak English.

4. Discussion

The instructor is on the right track in the planning session. This means that instructor has appropriated to standard. This can be seen from the document analysis. The policymakers have written the appropriate standard and it is suitable with the lesson plan written by the instructor. However, there is a discrepancy for another standard namely the regulation of using English in the classroom. This means that there is two interactions here, from student to teacher and student to student. Instructor did not let students to speak English except the text in the textbook.

This is caused by student asked to the instructor to discuss about the textbook only. Instructor played an important role here. This means that instructor should facilitate the students' need. This is in line with Brown (2001) who stated that teacher should find out the technique which fulfills students' need. Although students asked the instructor to discuss about the textbook, the instructor should find out the technique to overcome that problem. Another discrepancy comes from the standard which let students to speak English as often as possible. Students should have active interaction by using English so that they can speak English fluently as mentioned by (Richards & Rodgers, 2001).

After some discrepancies have known, the policymakers should do some things to revise the program considering its important to the students' English speaking ability. Policymaker should supervise the classroom. Besides that, the training for instructor can be a consideration.

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THE INFLATION IMPACT TOWARD INDONESIA'S FOREIGN DEBT IN 2014-2016

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Abstract

Foreign debt is really helpful in supporting the Indonesian government to whitewash the budget deficit of National Income and Spending Budget (APBN). Foreign debt payment is the biggest budget of all funded from National Income and Outcome Budget (APBN). The condition of domestic investment sources which is limited causes the foreign debt of Indonesia in both commercial and non commercial become increased. Consequently, there is still budget deficit and balance sheet payment. One of the causes is that the government keeps providing infrastructure and superstructure to fulfill economical development and the needs continuing to increase. Inflation is one of the factors causing the increasing National Debt. Inflation is a trend where there is an increase of the cost from one period to another period continuously. This research was aimed at finding out the correlation between the inflation rate and the foreign debt of Indonesia in 2014 - 2016. The data used in this research was gotten from the Indonesian Statistics which is secondary data. The data were analyzed by using simple linear regression method processed by using SPSS 2.2 Version. Based on the data processing gained, the inflation rate did not have significant impact towards Indonesia's Foreign Debt.

Keywords: inflation, foreign debt

1. Introduction

The foreign debt has become a serious problem. If a country has foreign debt, then there will be problems such as the task to pay the main debt and its interest. Foreign debt can be defined as one of the national income in the kind of foreign exchange whether it is in form of goods or services from the foreign loan provider (PPHLN) must be paid in particular circumstances. Foreign debt can also be defined as national budget sources provided by foreign countries, board/institution of international finance or from international monetary market in form of currency exchange, goods and merit or services including assurance causing Indonesia must pay the debt back according to agreements of both country have been reached.

On Going Deficit Transaction

Ongoing deficit transaction is the ratio or cost comparison between budget received from abroad and the payment to foreign countries. In other words, the transaction showed the total operation of foreign trade, foreign currency of trading, the balance between export and import and transfer payment. Ongoing deficit transaction causes foreign debt increases.

Investment need is increased

Investment is investing capital for one or more assets usually in long term investment with a hope to earn profit in the future. It is almost annually that Indonesia is lack of investment. Besides being caused by the lack of investment, the increasing foreign debt is also caused by the significant difference of interest rate.

The structure of economy is not efficient based on ICOR indicator

Incremental Capital Output Ratio (ICOR) is the ratio between the last year investment and output growth (PDRB). Large scale is needed when there is wasting because of inefficiency of the capital investment.

The Inflation rate is increased

Inflation is a process of the cost increase continually which is related to market mechanism caused by some factors. The inflation rate affect the interest rate, because the inflation expectation is the component of the nominal interest rate. Low interest rate caused low desire in investment, then to meet the national budget spending, the government used foreign debt. The inflation phenomenon in Indonesia is not just short term phenomenon happening situationally, it is also happen in other growing countries. Data

of inflation gained from Bank of Indonesia in 2014 was 8.36 %, in 2015 was 3.35 % and in 2016 was 2.59%. Inflation issue is a long term problem because there are still structural obstructions in national economic matter. In short term, the foreign debt really supports the government to fulfill the deficit of national earnings and spending budget which is caused by the routine spending and large scale national construction. Therefore, the growth rate of economy can be prodded to achieve the target made before. However, in long term case, the foreign debt can cause some economics problems in Indonesia. Data from The Bank of Indonesia showed that the Indonesian foreign debt continuously decreased from 2014 US \$ 292.94 million, in 2015 US\$ 290.341 million and in 2016 US\$ 319.070 million. The foreign debt accumulation and its interest will be paid through National Earning and Spending Budget or APBN RI by paying it partially every year.

The foreign debt has positive and negative impacts as following:

a. Positive Impact

In short term case, foreign debt help the government to fulfill the deficit of national earning and spending budget, which is caused by b routine spending payment and infrastructure construction spending on a large scale. The foreign debt support the development in Indonesia. By using extra funding from other countries, the growth rate of economy can be prodded and achieve the target made before.

b. Negative Impact

In long term case, foreign debt can cause various problems to national economy. One of them is the value of Rupiahs collapse as it is called inflation. Foreign debt can cause the National Earning and Spending Budget or APBN in danger or burdened because Indonesia must pay the main debt and its interest.

The Correlation between Inflation and Foreign Debt

Inflation is a monetary phenomenon (Michelis & Iacoviello: 2016). Inflation can be defined as the process of the increase of costs generally, or inflation can also been defined as the decrease of currency value continuously. Inflation is a phenomenon, not about how high and how low the cost is. It means that, the high rate cost does not certainly show the inflation. So, Inflation happens when the cost is increased continuously and affects each other.

If the high rate inflation occurs continuously, the economic activity rate will decrease. Then it will cause the national earnings decreased and will cause regression to national

earnings and unemployment rate will also increase. Foreign loan is a part of debt total of a country gotten from crediting countries. The debtor may be government, a company, or individual. The type of the debt can be money or funding gotten from private bank, foreign government, or other financial institutions like IMF and World Bank.

The Inflation pressure is caused by the increasing rate of public sector aggressiveness in doing business expansion, supported by developing banking. In the condition of domestic capital sources which is relatively limited, the foreign debt, whether it is commercial or non commercial, increases. As the result, there is still deficit of earnings and spending budget and foreign exchange payment. This is caused by the government keeps providing infrastructure and superstructure in supporting the development of economy in which the need is increasing. This role of government in this case can be understood because the capability of the private sector in constructing infrastructure to support the development of economy is still limited.

Inflation is a process of the increase of the cost generally and continuously related to market mechanism that can be caused by some factors. Inflation growth rate affects the interest rate because the expectation of the inflation is the components of nominal interest rate. Increasing inflation trend caused Bank of Indonesia cut the interest rate of currency. Low interest rate will also make the people's desire to investment low. So, the government fulfilled the national spending budget by borrowing money from other countries. To fulfill the lack of capital investment sources, the government try to attract foreign investors through various kind of loan.

Previous studies investigate the economic growth and the inflation in different rate from government and foreign debt. Analysis was based on the new data of forty four countries in last two hundred years. The data collected combining more than 3.700 annual observations consisting of various political system, institutions, currency exchange regulation, and historical conditions. The main finding was: firstly, the correlation between government debt and real PDB growth was weak for the ratio of debt/PDB which was under the threshold of 90 percent from PDB. Above 90 percent, the growth rate was decreased one percent. We found that the threshold for public debt with advanced is similar with the growing economy. Secondly, the growing countries are facing low threshold of debt (government and public) which is usually paid in foreign currency. When foreign debt reaches 60 percent of PDB, annual growth

decreases two percent; for the higher rate, the growth rate is cut a half of gross growth. Thirdly, there is no clear correlation between contemporary relationship between inflation rate and public debt to develop. Country as a group (some countries, like USA, has experienced higher inflation rate at the time of high PDB debt.

Another study was done by Bestari (2013). She analyzed the impact of foreign debt, inflation, and investment towards the growth of economy. The result of the study showed that (1) foreign debt has significant impact toward the growth of economy in Indonesia, (2) inflation had significant negative impact towards the growth of economy in Indonesia. (3) Investment has significant positive impact towards the growth of economy in Indonesia, (4) both foreign debt and investment has significant impact towards the growth of economy in Indonesia.

2. Method

Method used in this research was explanatory survey by using simple linear analysis. We collect the time series data from the inflation, foreign debt in 2014 - 2016.

3. Result and Discussion

Variables in this research were inflation and Indonesian foreign debt in 2014 - 2016. The variables were analyzed to find out how they can interrelate one another. The data of inflation and foreign debt were processed in 2014 - 2016 by using linear regression and correlation which was processed by using SPSS 2.2 version as figured out as following:

Tabel 1. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	ddf1	ddf2	Sig. F Change	
1	.213 ^a	.045	.016	18.574333	.045	1.524	11	332	.226	.483
a. Predictors: (Constant), inflasi										
b. Dependent Variable: foreign debt										

Table 1 showed that the correlation (R) was 0.231 with determination coefficient of (R²) was 0.045. it means that inflation has 4.5 % toward

foreign debt, while the rest was 95,5% influenced by other factors.

Tabel 2. ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	525.668	1	525.668	1.524	.226 ^b
Residual	11040.187	32	345.006		
Total	11565.855	33			

a. Dependent Variable: foreign debt

b. Predictors: (Constant), inflation

Table 2 showed that the impact of inflation towards foreign debt with the degree of significance 0,05, df 1 = 1 dan df 2 = 32. It was gained that the value of F = 4.15. from the data above, it was found that f counted was 1.524, because 1.524 is smaller than 4.15, then null hypothesis or H₀ is accepted. Therefore, it can be concluded that the inflation does not have any impact towards foreign debt or the probability 0,226 which was higher than 0.05 (degree of freedom) that means that regression model cannot be applied to predict foreign debt.

It might be caused by the occurrence of deflation in some periods affecting foreign debt.

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4. Conclusion

Based on the discussion above, it can be concluded that inflation does have impact towards foreign debt in the period of 2014 - 2016.

integrated moving average (arima)
dengan penambahan *outlier*.

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IMPLEMENTATION OF INCLUSIVE EDUCATION AND ITS CULTURAL PRACTICE IN PUBLIC SCHOOL (CASE STUDY AT SMPN 29, SURABAYA)

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Abstract

The model of inclusive education is important to be applied in school in order to gain equal right for all students towards education. Inclusive education defined as a system which provides equal opportunity to all students with different ability who possess intelligence with/or implementation talent to pursue an education in conjunction with students in general. Inclusive education has been agreed by many countries as a tool to combat discrimination in education. Inclusive education model applied differently in different school according to each school's tradition, culture, and region. This research intended to observe the implementation of inclusive education in public school, including how actors or related parties in school applied the norms and values as a part of inclusive culture in school. This study applied qualitative method and conducted in SMPN 29 Surabaya. Research subjects are parties and communities in school who possess knowledge and experience in inclusive education implementation, namely teachers, headmaster, students with special needs, and regular students. Data gathered through in-depth interview and observation. This research found that school had succeed in creating an inclusive culture on the learning process even inclusive culture was not previously hold in the school. The conclusions of this study are: (1) implementation process of inclusive culture were achieved through internalization, externalization, and objectification toward behavior which ignites differences or discrimination; (2) inclusive culture internalization is preferably started in the period of student's orientation, which further practiced in many internal and external school activities which requires participation from entire part of the school.

Keywords: implementation, education, culture, inclusion, internalization, externalization, objectification, norms

1. Introduction

Inclusive education has been agreed by many countries as a tool to combat discrimination in education. Strategies, methods, and approaches to inclusive education applied differently in diverse countries [1] (UNESCO, 2000; Stubbs, 2002). The diversity of the education implementation appears as a result of different cultures and traditions hold in those countries. The difference of inclusive education implementation also occurred in province, city, and school. Indonesian Government has attempted to implement inclusive education in various programs and activities served by Ministry of Education and Education Authorities in provinces, cities, and residences.

According to PERMENDIKNAS [2] (Regulation of Ministry of Education) number. 70, 2009, article 1; inclusive education defined as in system implementation which provides equal opportunity to all students with have different ability who possess intelligence with/or implementation talent to pursue an education in

conjunction with students in general. Unfortunately, inclusive education through inclusive school in Indonesia, especially in the major cities is facing many constraints. Identified problems in the education implementation include the lack of appropriate facilities to children with activities, the lack of companion teacher, and the lack of support from society in implementing inclusive education programs which cause inconvenience for many parties.

Children with special needs in Indonesia have received assistance without their self-consideration on their wants or opinions. This situation was due to the dominance of charity model is than empowerment model. Moreover, awareness of people in the school to create a comfortable environment for whole parties is still low. This circumstance emerged due to belief in the society which stated that children with special needs are curse or punishment for sinner ancestors. They were seen as unreliable children or children who bring misfortune and carry other negative perceptions from society. Moreover, children with special needs are often regarded as

children with no ability to reach the equal intelligence level of children in general. Therefore, those kids are experiencing isolated living. They often faced alienation from school and excluded as a part of the school [3] (source: www.health.kompas.com accessed 2 Desember 2015).

Surabaya is one of the major cities in Indonesia that has the school with the inclusive education system. Several public schools had started to develop inclusive education system for children with special needs as school's effort for students with special needs. The goals are students with special needs will be able to interact with school community and they won't be considered as children with disability. The implementation of inclusive education model in public school was first operationalized in Surabaya during 2008/2009 periods. Currently, Surabaya has 52 public elementary schools, 20 junior high schools, and 4 vocational high schools that implement inclusive education system.

A decent school has the ability to create a conducive atmosphere for the every party in school. The atmosphere defined as the environment within school formed by interaction between the prevailing individual [4] (Depdikbud, 1982) In this case, individual interaction consists of interaction between teachers and students, students and students, teachers and teachers, and teachers and school elites. The conducive atmosphere in school was shown by intimacy, competition, and order for school organization, security, and school facilities. The conducive relationship will help the development of student's self-potential according to the designed direction that they feel the satisfaction of learning. Inclusive cultures will be formed with decent school atmosphere which indicated by convenience ambience, acceptance, and collaboration which every party at school feel valued and appreciated. Those basic values guide the creation of wisdom and custom in school [5] (Junaidi, 2015:2)

Different schools have the different environment, no exception for inclusive-labeled school which consists of students with various necessities. Children with different needs are classified as following: (1) blindness (2) handicapped, (3) children with emotional disturbance, (4) speech impaired, (5) children with multiple disabilities, (6) down syndrome which consists of three categories; (a) mild (IQ=50-70); (b) moderate (IQ= 25-50); (c) severe down syndrome (IQ<25); (7) special talent potential with multiple intelligence in language, mathematic logic, visual, kinetic,

music, intra-personal, nature, and spiritual intelligence; (8) learning difficulties include: hyperactive, ADD/ADHD/, dyslexia or difficulty in learning to read, dysgraphia or inability to write coherently, dyscalculia or difficulties in performing math-related tasks, dyspraxia or motor disorder, learning disorder (IQ=70-90), autism, victim of drug abuse, HIV-AIDS patients [6] (Regulation of Ministry of Education , 2009)

The inclusive school was expected to create equal learning atmosphere without discrimination towards student's diversity and difference. This is obviously not an easy task for a public school that appointed by the government to held inclusive education model. One of public school which appointed to held inclusive education model in Surabaya is Junior High School (SMPN) 29. Designation of SMPN 29 as inclusive model school ignited various reactions from parties in school which previously applied exclusive education model. Various forms of discrimination and violence were admitted by the school principal and teachers due to the absence of information regarding children with special needs in the beginning of the implementation of inclusive education model. As the development of the system, teachers gained more knowledge from considerable training about inclusive school model management. Therefore, changes in interaction pattern within school community have emerged which further formed a conducive atmosphere in the school.

Formulation of Problems

As an attempt for deeper understanding about how school implement education and inclusive culture in its daily operationalization, the problems in this study are: (1) how do parties in school comprehend model of inclusive education in daily learning activities in school? (2) What strategies are applied by headmaster and teachers in embedding inclusive culture in school? (3) How will inclusive culture accommodate different needs of students in school?

2. Method

This study is a qualitative study and uses constructivism as the main perspective. The perspective applied to explore the discourse, the notion of meaning and symbols which reproduced by research subject. Therefore, novel knowledge can be made and can be used to define a reality. The analysis focused on the interpretation of individual awareness toward reality. This research aims to analyze social reality and how the reality constructed.

The research was conducted in SMPN 29 Surabaya. The location was chosen based on several considerations: (1) SMPN 29 Surabaya is one of public school which operates inclusive education for the first time (in 2009/2010); (2) SMPN 29 Surabaya is an inclusive school with biggest facilities for children with special needs in Surabaya.

Research subjects were chosen purposively by considering their ability to explain and to comprehend the whole process of inclusive education and daily activities in SMPN 29 Surabaya. Other than parties in school, research subject also includes parents of children with special needs and children in general. Research subjects were listed as following: (1) Vice of headmaster; (2) homeroom teacher; (3) inclusive teacher coordinator; (4) companion teacher for children with special needs; (5) parents of children with special needs; (6) parents of student in regular class; (7) students with special needs; (8) students from regular class; (9) school canteen staff; (10) academic staff in school environment.

In this research, data gathered by using several methods which mentioned by Miles and Huberman [8] (1992) as data triangulation, specifically are in-depth interview and observation. Research applied structured and unstructured interview. Observation conducted in order to gain conception about operationalization of inclusive education and implementation of inclusive culture in school.

Data that had been collected was processed and selected; it was further analyzed based on the appointed research design. Data processing performed by using two methods. The first method is classifying data to find similarity and difference or variation emerged from the available data. The second method is linking data with theory.

3. Results

Based on the finding in the field, it was apparent that inclusive education model can be comprehended by students and teachers, especially in the learning process. This was reflected in daily activities performed by students, teachers, headmaster, and academic staffs that support the implementation of inclusive education. Based on the observation, students could interact well in learning activities, whether in class or outside the class, especially for students with special needs. Students did not mock each other if one of them could not complete school tasks. The role of the teacher in socializing the value of cooperation, helping and

respecting each other are relatively successful. Students in general and students with special needs are empathic to each other and being considerate towards capability and restraints of their friends.

Strategies used by headmaster and teachers in embedding inclusive culture to their students performed in various approaches. The first strategy strived through providing companion teacher for students with special needs. The companion teachers were obliged to provide therapist and self-development services. The aim of those services was to strengthen students with special needs so that they were well-prepared to join learning processes and school activities. The second strategy conducted by teachers who continuously socialize and internalize values and norms about responsibility, togetherness, dignity, appreciation, and self-awareness towards the surrounding environment. In the process of internalizing those values and norms, teachers also gave example, explanation, or warning and penalty to all students equally; not only to students with special needs but also regular students if they made mistakes.

The third strategy was a structured strategy where headmaster and teachers formulated a program in school which involves the whole students.



Figure 1. shows interaction between student with special needs with regular student. Physically impaired student was accompanied by his friends on their way to the canteen.

The first method performed when the school held school orientation training week program. This program requires all students, whether those with special needs or regular students, to participate. The goal of this program is to introduce students as well as embedding inclusive culture as an academic culture in school. Achieving this goal is important for

school since not every student in SMPN 29 understand the importance of practicing inclusive culture in the school. The second method pursued through the extracurricular program. There is extracurricular program which designed for all students and obliged all students to join the program. Through this method, students from diverse ability could mingle with each other in one routine program to educate them to respect and help their friends in need. The third method conducted by combining students with special needs with regular class in the same class. Therefore, students will naturally interact with their friends and know each other better. Students would also learn to face challenges and difference that occurred in learning activities in class.

However, even the strategies implemented are appropriate to introduce school community with inclusive education, school is still facing several constraints in the implementation of inclusive education, such as inability of several parties in school to quickly adapt and accept differences. Despite the ability of many students and teachers to communicate and interact in a differentiated environment, growing an inclusive culture in school is still considered as a great challenge. Based on interviews with students and teachers, students who were lacking the ability to understand and to catch up with lesson were still experienced discrimination and underestimation by the teacher. Moreover, teachers still faced hardships in providing learning tools for students with special needs due to limitedness of material resources. Another difficulty in implementing inclusive education was inequality in training to teachers about students with special needs. As the result, several teachers forced their students to catch up with learning materials which for students with special needs are difficult to understand. Therefore, several students feel threatened when they could not understand learning materials from their teachers.

Another constraint experienced by the school in providing best services for all students was limited therapeutic services for students with special needs. This restraint was mostly caused by the lack of companion teacher who capable to provide therapy for all students with special needs in school. The problem was also occurred due to the lack of props and therapy supporting tools availability in school. As school was unable to fulfill student's needs on its entirety, big amount of students with special needs were often feel neglected.

4. Discussion

This study uses social construction approach by Peter Berger. Social construction regarding inclusive education was initiated by awareness of many actors in school about diversity and difference as a part of their social reality. The reality about inclusive education was realized by actors through their experiences which formed an academic atmosphere or inclusive culture. The process of academic atmosphere formation until it became an inclusive culture can be explained by using the theory of social construction stated by Peter L. Berger [9]. (Berger & Luckman, 1990)

The formation of awareness and thought about inclusive education until it became a part of the academic atmosphere and academic culture in school can be achieved through three simultaneous momentum, namely: socialization (and internalization), objectification, and externalization.

By socialization and internalization, people in school started to acknowledge and accept diverse characters of students, including students with special needs. Socialization and internalization about inclusive education were not only aiming parties within the school but also parents and all students of SMPN 29 Surabaya. Therefore, all parties which involved in school activities could gain adequate understanding about inclusive education and realize the existence of students with special needs.

By internalization, people in school were able to receive comprehension about supporting values to inclusive education. Methods and strategies performed to internalize values and inclusive culture are through student orientation training, extracurricular activities, learning activities in class, et cetera.

Not only experiencing socialization and internalization, the people in school also undergo the momentum of objectification. In this momentum, actors in school construct their knowledge about education and inclusive culture. Knowledge gained from socialization and internationalization processes conducted by teacher in order to define reality of academic atmosphere in school. After comprehending knowledge transferred by teachers, students started seeking the meaning of the ongoing situation on their environment. Students with special needs and regular students attempted to define their behavior and interpret their custom which formed into a part of inclusive values and cultures such as helping each other and respecting and appreciating the others. These processes happened continuously and formed

knowledge about the current circumstances in their surroundings.

The momentum of externalization was an inseparable part in actualizing knowledge that has been constructed by an individual. Comprehension about education and inclusive culture experienced by all parties in school would mean nothing unless they perform a real action related to values and norm within inclusive education and culture. Through the momentum of externalization, people in school were able to actualize the meaning of inclusivity in their activities. Respecting and not humiliating each other are several kinds of actualizations and externalization act. Also by externalization, school community could act, behave, and using language suitably according to inherent values in inclusive culture. School community should also adapt to the socio-cultural world in order to be accepted by their environment as a genuine part of the school.

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PRIMARY SCHOOL PRE-SERVICE TEACHERS' PERCEPTIONS OF SCRATCH AND ITS ROLE IN FACILITATING STUDENTS TO LEARN CODING

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Abstract

This study was a qualitative survey study aiming at describing the perceptions of primary school pre-service teachers of *Scratch* programming software. It also intended to unfold their viewpoints of the software's roles in supporting their own learning process as well as in facilitating primary school students to learn coding. The data gathered in this study was derived from a questionnaire distributed to 50 primary school pre-service teachers of Sanata Dharma University taking the *Media Pembelajaran Berbasis ICT* course. The questionnaire was in the form of open-ended and semi open-ended questions and was distributed to the respondents after they had attended *Scratch* programming sessions during the course. The data gathered through the questionnaire was coded and classified into categories to form patterns of primary school pre-service teachers' perceptions of *Scratch* programming and their viewpoints of the software's roles in supporting their own learning process as well as in assisting their future role as primary school teachers facilitating their students to learn the skills of coding. The results of the data analysis showed that the primary school pre-service teachers had positive perceptions of *Scratch*. They considered the program as good and attractive for young learners. It was also found out that the program was beneficial not only in improving their digital literacy skills by facilitating them learn simple coding or programming but also in helping them advance their thinking as well as problem-solving skills.

Keywords: primary school, pre-service teachers, perceptions, *scratch*, coding

1. Introduction

Digitalization has become inseparable part of everyday life and it makes it inevitable for people to become more and more reliant on the use of technology to perform their day-to-day works. As the world becomes increasingly digitalized and automated, children of today need to learn to be creators and not just consumers of digital technology [2]. In order to embrace their role as digital creators, these millennial children need to familiarize themselves with and learn the skills of coding.

In its broad sense, coding is programming. It means writing the step-by-step instructions that tell a piece of technology – usually a computer – what to do [3, 4]. Coding also means arranging the instructions so that the program works as smoothly and quickly as it can, and doing all this in a way that other coders or programmers can follow in case they need to look at or modify them [13].

Coding has become increasingly important because it teaches children to problem-solve by performing computational thinking. It requires them to think like a computer by breaking down tasks into a logical sequence of smaller steps,

discarding unnecessary elements, diagnosing errors, and inventing new approaches when the conventional ones do not work. In short, coding teaches them to learn to think [6].

Coding can also power creativity and innovation [12]. It encourages learners to work things out for themselves and be problem-solvers as well as empowers them to be digital makers for jobs in the future. The skills of coding also equip them with the ability to keep up with rapid changes in the digital world by providing them with the ability to cope with uncertainties of the programming results while at the same time keep their logical thinking in scripting the programming instructions [6].

One of the best software that can help student start learning coding is *Scratch*. It is a visual programming software developed specifically for children by the Lifelong Kindergarten Group at the Massachusetts Institute of Technology (MIT) Media Lab. As it is intended for young learners, *Scratch* is without doubt easy to use. It consists of attractive colorful blocks of texts with simple written instructions on them. What makes it even easier is that these blocks snap together like Lego or puzzle pieces to create basic programs. By using this software,

learners can easily adapt already-made codes to make their work faster and better or even make their own games, quizzes, or animations [1, 8, 11].

The importance of coding for working and living in the digital era has urged teachers to start thinking about teaching its skills to their students as early as possible [6, 12]. As millennial teachers, they should prepare their students to face life and work in the digitalized future. However, as coding is still a relatively new subject to primary schools in Indonesia, teachers at this level of education need to get themselves familiar with the subject. Providing them with the opportunities to learn coding using unsophisticated software such as *Scratch* is just an initial effort to evoke their awareness about the benefits of coding for the future generation.

This paper is trying to identify the perceptions of primary school pre-service teachers learning coding for the first time using *Scratch*. It intends to reveal how these pre-service teachers view their learning experience with the program. These perceptions are central not only to reveal their genuine feelings towards the process of learning *Scratch* itself but also to predict the probability of their adopting and making use of the program to facilitate their future millennial students to learn coding.

2. Method

This study was a one-shot survey study taking qualitative approach as its framework. Unlike quantitative surveys aiming at describing statistical parameters of the data gathered from their respondents, this study aimed to identify the variation of the respondents' perceptions of the topic under study [7]. As a one-shot survey research, this study followed only one empirical cycle of (1) identifying research problems, (2) determining research respondents, (3) gathering data from the respondents, (3) analyzing the data gathered, and (4) generating hypotheses based on the data analysis process.

The respondents of this study were fifty sophomores from Primary School Teacher Education Program of Sanata Dharma University who learned coding using *Scratch* as part of their ICT course. At the end of their five-week learning experience using the program, the students were given a written questionnaire containing five questions about *Scratch*. Four questions were open-ended questions while one was semi open-ended where they were asked to choose among the options or add their own response when they thought they had other applicable responses for the question.

The data gathered from the questionnaire were classified into two main categories. Those categories were respondents' general thoughts about *Scratch* and their follow-up actions regarding the use of the program in their later professional life as primary school teachers. The two categories were then elaborated into a few sub-categories detailing the respondents' thoughts about *Scratch* (i.e. its advantages, benefits, and constraints) and the kind of follow-up actions they would take after learning the program.

3. Results

The results of the data analysis phase showed that the majority of the respondents (96.15%) thought that *Scratch* was not easy to learn. Their responses revealed that they had difficulty in assembling the *Scratch* command blocks to generate their own scripts (84.32%). They also stated that they strived to use the program because of their unfamiliarity with its user interface (7.84%) and because of the fact that the program used English as its language interface (7.84%). It was also found out that some respondents had difficulties in using and creating their own sprites (3.92%), and in using sound features of the program (3.92%).

Apart from the difficulties, however, the respondents testified that *Scratch* was good because of its ability to help them create simple games and animations (80.39%). The rest of the respondents noted down that the program was attractive because it contained colorful command blocks that made it easy for users to choose among the scripts. They also agreed that the fact that it had cute cartoon sprites with varieties of costumes or movements made the program even more attractive for beginners.

When asked about the benefits of learning *Scratch* for them, 33.33% of the respondents mentioned problem-solving, critical thinking, and digital literacy skills as the skills that they learned while learning the program. The rest of the respondents stated that they were compelled to use two, or at least one, of the skills while learning coding with *Scratch*. However, these respondents noted that they were also required to be more creative and think logically in order to generate their own scripts and make their own games or animations. As follow-up actions, the questionnaire responses showed that the majority of the respondents (98.04%) said they would continue learning the program because they wanted to use it to create educational games as well as animations for their future students. In addition, they also wanted to teach *Scratch* to

their students because they believed that the program could help their students improve their digital literacy skills, learn to think creatively and logically as well as to problem-solve.

4. Discussion

The data analysis process showed that the majority of the primary school pre-service teachers considered *Scratch* as a not-so-easy program to learn because they experienced difficulty in assembling the command blocks while trying to make characters (sprites) do something. Despite their five-week learning experience with *Scratch*, this struggle could be rooted from the fact that it was their first encounter with the program as well as with coding in general. As indicated by their responses, they found it challenging to think of and pick up specific command blocks for specific instructions because they were not yet familiar with the script tab and its contents. Simply put, they still strived to decide which blocks to use and under what categories they belonged to.

Scratch was developed with constructivist learning theory in mind [10]. Accordingly, it is acknowledged that learners will learn to use the program at their best when they are personally involved and engaged in the processes of designing their own projects. While *Scratch* only required its users to drag and snap command blocks together to move sprites or characters, learners still need to think of correct sequences of blocks in order for their sprites to move or do specific things. Experimenting with different categories of block commands and trouble-shooting the generated scripts from time to time will help novice users to familiarize themselves with the block palettes and the commands under each category [8]. It is through these processes of experimenting and trouble-shooting that learners attempt to use their logical thinking to work things out for themselves and find solutions to solve problems concerning their own generated instructions in the program.

The difficulty of which the primary school pre-service teachers had to deal with in assembling command blocks to create instruction scripts, creating their own sprites as well as adding sounds in *Scratch* could result from the lack of intensive practices and experiences in using the program. The amount of time provided for them to experience and learn to use the program was presumed to have effect on their familiarity with the program. Considering their experience with *Scratch* and coding in general, it was quite likely that they did not have sufficient time to learn and use the program autonomously.

Provided with more time and learning experience, it is expected that these student teachers can familiarize themselves with the program and, therefore, dealing with their difficulty in producing novel scripts of their own by continuing advancing their digital literacy skills as well as their thinking and problem-solving skills as they learn to create something using the program.

The data analysis process also showed that 80.39% of the primary school pre-service teachers thought that *Scratch* was good because it could help them create simple games and animations. This simplicity could be due to the fact that the program was actually designed for young learners with little or no programming skills. As revealed in the data analysis process, the student teachers felt more confident with the program because they did not need to memorize any bits of code to program and because they could minimize the risk of syntax errors while using the program [10].

The primary school pre-service teachers also reported that *Scratch* was attractive because of its colorful interface. This colorfulness was perceived from the different colors of its ten categories of commands (i.e. *motion*, *looks*, *sound*, *pen*, *data*, *events*, *control*, *sensing*, *operators*, and *more blocks*) in the scripts tab. In practice, as they noted, the color difference between categories were helpful in choosing and arranging block commands in the block palette. Because a series of instructions for a sprite consisted of blocks from multiple categories, the difference in colors made it easier for them to switch between categories and locate appropriate block commands they needed [9].

The built-in costumes of *Scratch* sprites or characters were also part of the program the primary school pre-service teachers considered as interesting. The costume sets were not only attractive but also helpful in easily moving a sprite. As a costume functions as an alternate appearance of a sprite, they did not need any specific block commands and were only required to use multiple costumes of the sprite to give it the impression of movement, or put it simply, to move it [5].

The responses given by the primary school pre-service teachers also showed that the majority of them (98.04%) would continue to learn *Scratch* because they wanted to create their own games and animations using the program. They noted that *Scratch* was advantageous not only in visualizing learning materials but also in advancing their digital literacy skills and making them learn to think logically as well as problem-solve creatively. Considering its benefits, the

pre-service teachers said they would later make attempts to teach their students to use *Scratch* and hence help the future millennial generation to develop their own digital literacy, thinking and problem-solving skills by creating something novel using the program.

The benefits of *Scratch* stated by the primary school pre-service teachers underline the important characteristics of the program, i.e. tinkerable and meaningful [11]. It is considered *tinkerable* because it lets learners experiment with commands and code blocks in a way they might tinker with mechanical or electronic components. This tinkability characteristic encourages hands-on learning and supports a bottom-up approach to creating scripts where blocks of code are assembled, tested and put together into larger units. In other words, tinkability helps learners discover the functionality of various blocks of codes autonomously [8].

Scratch is also considered as providing meaningful learning experiences for its novice users because it allows them to choose among different types of projects (such as stories, games, animations, or simulations), so they can work only on projects they are really interested in. The program also makes it easy for learners to personalize their chosen projects by importing photos and sound clips, as well as creating graphics of their own. As the learners work on their own personally meaningful projects, it is more likely that they use their thinking and problem-solving skills to learn by using essential mathematical and computational concepts needed to make their projects work properly [11].

5. Conclusions

Based on their five-week learning coding experience with *Scratch*, it was found out that the primary school pre-service teachers of Sanata Dharma University had positive perceptions of *Scratch* and of its role in supporting the process of learning to code. Even though the pre-service teachers thought that the program was not easy to learn, they noted that it was good because they could create their own animated projects such as games and interactive stories without any specific knowledge of programming skills. In addition, it could also help them visualize their learning materials and so provide more engaging learning experiences for their future students.

The primary school pre-service teachers also indicated that *Scratch* was attractive and advantageous. The simple colorful interface of the program helped them move around different

categories of scripts and find ones appropriate for their projects. Most importantly, the pre-service teachers were motivated to learn more about *Scratch* and teach their future students to use it because they were aware that learning *Scratch* was not merely learning about coding or programming but also learning to continuously develop and use digital literacy, thinking and problem-solving skills necessary to live and survive in millennial era.

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STUDENTS' PSYCHOLOGICAL WELL-BEING AND ATTACHMENT TO GOD: MULTI-GROUP MODERATION OF PRAISE AND WORSHIP PRACTICES AND GENDER

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Abstract

In Christianity, worship and praise music is very common practice as expression of worshipping God The Creator. Worshipping and praising God have solid foundation found in the Bible as "giving glory to God in which thanksgiving is delivered." Through praise and worship songs, people are connected each other as well as connected to God and building faith and hope. Singing undoubtedly has beneficial effect on human's well-being (Menehan 2013). The study of well-being involving spiritual aspects reveals that attachment to God may be risk factor of psychological well-being. In such case, avoidant and anxious attachment to God may hinder personal relation to God. This study focused on how Christian students' praise and worship practices differentiate the relationship between attachment to God and psychological well-being. 105 Christian students classified their attachment to God into anxious and avoidant attachment (AGI; Beck & McDonald, 2004) and psychological well-being (PWB; Diener & Biswas-Diener, 2008). The nominal measure for students' praise and worship practices (yes/no) was functioned as multi-group moderation on the relationship between attachment to God and psychological well-being. Analysis using SMARTPLS 2 found that only avoidant attachment which decreased students' psychological well-being ($1.96 < 2.713$). However, it was found that praise and worship practices did not moderate the relationship between attachment to God and psychological well-being.

Keywords: psychological well-being, praise & worship, multi-group moderation, and attachment to God

1. Introduction

Killmer (2002) stated that a greater acknowledgement shift to religion and spirituality are believed to have substantial impact to human's mental health. Supporting studies regarding such phenomena involve the study of Haber, Jacob, & Spangler (2007) and Koenig (1998). The term religion is mainly defined as an organized system of beliefs and practices (Koenig, McCullough, & Larson, 2001). Monotheistic religion such as Christianity focuses on the people's experience of their relationship with God (Edwards & Hall, 2003). Hill and Hall (2002) clearly explains that a common idiom among Christians, Christianity is not a religion but relationship. In this case, the emphasis lies on the active experience with God, not in the cognitive knowledge about God and the teachings. In Christian faith, the centrality of an intimate relationship with God is depicted as desiring personal relationship with humans (Miner, 2009).

The most prominent theoretical framework dealing with relationship with God (particularly Christianity) is attachment theory (Hill and Hall, 2002). Attachment theoretical framework has

been considered as solid, empirically verified theoretical foundation in explaining the dynamics of a relationship (Rholes & Simpson, 2004).

The attachment theoretical framework views the dynamics and processes underlying the relationship between human and God are similar to those underlying man's relationship (Leffel, 2007). In Christianity, God is viewed as a secure attachment figure as indicated by characteristics as written in the Bible: the helper, comforter, Father, personal friend, provider, healer, protector and one who loves them unconditionally (Thackeray, 2001). As the consequence, the quality of attachment to God may influence Christians' mental health.

Brennan, Clark, and Shaver (1998) proposed that there were two dimensions underlay most attachment classification models: avoidance of intimacy and anxiety about abandonment. As the concept indicates, this model is dimensional in nature allowing individuals to vary along the two continuous dimensions of avoidance in one continuum and anxiety on the other continuum. Avoidance intimacy with God is characterized by difficulties to depend on God, need for self-reliance, and

reluctance to emotionally intimate with God. Anxiety to attach with God is characterized with perception toward God as inconsistent in reactions to individuals. Research indicates that anxious attachment to God experience less satisfaction in life, increases in anxiety and negative affect (Rowatt and Kirkpatrick, 2002). The consequences of avoidance intimacy with God toward psychological well-being only in positive relations with others and personal growth dimensions. The relationship has been an inverse relationship in seminarian community (Okoyi, 2010). However, in the same study, anxious attachment to God had negative correlation with all of psychological well-being sub scales: autonomy, positive relations with others, environmental mastery, personal growth, self-acceptance and purpose in life. Regarding the above findings, the author wants to study other possibilities outcome of the relationship between attachment to God and psychological well-being. The use of PWBS (Ryff, 1989) to measure psychological well-being may be inappropriate in collectivistic culture especially the autonomy subscale. Thus, the author preferred to use PWB scale (Ed Diener & Biswas-Diener, 2009) which is short but comprehensive measure.

In Christianity, music has been playing important role as a way to worship God. Study on a Pentecostal charismatic youth group indicates that religious-spiritual involvement and musical-emotional engagement flourished their psychological well-being (Tshabalala, 2010). Historically, music has been involved in the practice of early church and has biblical foundations as a way to give thanks and glory to the God. At the mass or meetings, music connects people of God and builds hope and faith. Through praise and worship, experiencing God's presence, love and peace are possible (Seifert, 2011). Religious practices including praise and worship, praying and reading religious materials have been reported increase the psychological well-being (Shuler, Gelberg, & Brown, 1994).

From the above description, the hypothesis of the study are as follows:

Hypothesis 1: Attachment to God influence the Christian students' psychological well-being.

Hypothesis 2: The practice of praise and worship differentiate the attachment to God influence on the Christian students' psychological well-being.

2. Method

This was a Partial Least Square (PLS) study, a soft modelling approach to Structural Equation modelling (SEM) (Vinzi et al., 2010). There are no assumptions of normality as well as big sample size requirement in this approach. All PLS data were analysed using SMARTPLS 2 (Ringle, Wende and Will, 2002). The sample of this study comprised Christian university students which were taken conveniently. The choice to use a Christian sample for the current study was that the more homogeneous in religious practices and rituals the participants were, the less a chance factor to confound the result. Other reason is researcher's familiarity with the Christian tradition at a personal level.

A total of 105 Christian participated in the study consisted of 25 (23.8) males and 80 (76.2%) females, with age range from 15-23 years old ($M = 18.53$, $SD = 1.309$). From those participants, 65 (61.9%) practiced praise and worship ritual to God while 40 (38.1%) did not.

Instruments in the study involved Attachment to God Inventory (AGI; Beck & McDonald, 2004) consisting 28 items on 7-point Likert scales. AGI has two sub-scales: avoidance attachment and anxious attachment. The avoidance attachment and anxiety attachment were based on Brennan et al.'s (1998) explanation, in this case it referred to avoidance of intimacy with God in the forms of self-reliance, a difficulty in reliance upon God, and unwillingness to be intimate with God emotionally. Sample items of avoidance attachment were: "I am totally dependent upon God for everything in my life", "It is uncommon for me to cry when sharing with God", and "I just don't feel a deep need to be close to God."

The anxious attachment to God subscale was indicated by angry protest in which one perceived his experience as lack of God's affection, jealousy over God's differential intimacy with other people, perception of not being loved by God, as well as worries concerning one's relationship quality with God. The sample items of the measurement were as follows: "I worry a lot about my relationship with God", "I am jealous at how God seems to care more for others than for me", and "I often worry about whether God is pleased with me" The composite reliability for avoidance attachment subscale was 0.789 and the composite reliability for anxious attachment subscale was 0.889.

Psychological well-being was measured using psychological well-being scale (Ed Diener & Biswas-Diener, 2009) consisting 8 items. This scale measured important aspects of human

functioning covering positive relationship, feelings of competence, having meaning and purpose in life. The PWB items' responses were 1-7 scale ranging from Strong Disagreement to Strong Agreement. The sample items of this measure were as follows: "My social relationships are supportive and rewarding", "I am optimistic about my future", and "People respect me." The composite reliability of PWB scale was 0.874. Having met data screening, the data was analyzed using SMARTPLS 2.0 .

3. Results

Measurement model

The measurement model is the part of the model that examines relationship between the latent variables and their measures. Anderson and Gerbing (1982) stated that measurement

model is needed before meaning can be applied to structural model analysis. Bagozzi (1981) also previously argued that measurement model analysis should be considered as criterion to causal analysis. The analysis of measurement model in this study was calculated by PLS algorithms.

The measurement model of psychological well-being scale resulted in good composite reliability (CR) CR >0.7 (Hair, Anderson, Tatham, & Black, 1998). The PWB scale also possessed good convergent validity (0.504) as indicated by Average Variance Extracted (AVE) above 0.5 (Dillon and Goldstein, 1984). All of factor loadings were above 0.5. The measurement model analysis summary is presented below.

Table 1. Measurement model of PWB scale

Items	Factor loadings	Composite reliability	Average Variance Extracted (AVE)
PWB_1	0.838694	0.874	0.504
PWB_2	0.761831		
PWB_3	0.661835		
PWB_5	0.545966		
PWB_6	0.727318		
PWB_7	0.819033		
PWB_8	0.560749		

The PWB scale has also good discriminant validity as indicated by higher factor loading in its construct, not in other constructs. The

following Table 2 presents the cross loadings of the PWB items (bold).

Table 2. Cross loadings of the PWB items

Items	Anxious Attachment	Avoidant Attachment	Psychological Well-Being
ANX_10	0.741744	0.248825	-0.186254
ANX_12	0.691965	0.171462	-0.262233
ANX_14	0.859819	0.335741	-0.279270
ANX_2	0.570339	0.189198	-0.242138
ANX_3	0.829694	0.323197	-0.272025
ANX_4	0.773061	0.288323	-0.178374
ANX_5	0.631016	0.095504	-0.168571
AVO_10	0.249158	0.872083	-0.343471
AVO_5	0.120458	0.636199	-0.133873
AVO_6	0.344944	0.716228	-0.236695
PWB_1	-0.317503	-0.261884	0.838694
PWB_2	-0.217213	-0.205028	0.761831
PWB_3	-0.139055	-0.149115	0.661835
PWB_5	-0.209134	-0.118746	0.545966
PWB_6	-0.213857	-0.257490	0.727318
PWB_7	-0.313567	-0.404049	0.819033
PWB_8	-0.009222	-0.178951	0.560749

The measurement model of avoidant attachment to God sub scale showed good composite reliability (CR) CR >0.7. The avoidant attachment to God sub scale also

possessed good convergent validity (0.559) as indicated by Average Variance Extracted (AVE) above 0.5 (Dillon and Goldstein, 1984). All of factor loadings were ranging from 0.636 to

0.872. The measurement model analysis summary is presented below.

Table 3. Measurement model of avoidant attachment to God subscale

Items	Factor loadings	Composite reliability	Average Variance Extracted (AVE)
AVO_10	0.872	0.789	0.559
AVO_5	0.636		
AVO_6	0.716		

The discriminant validity of avoidant attachment to God subscale is good as all items' factor loadings nested in their own construct. The

following table shows the information of the cross loadings of avoidant attachment to God (bold).

Table 4. Cross loadings of avoidant attachment to God items

Items	Anxious Attachment	Avoidant Attachment	Psychological Well-Being
ANX_10	0.741744	0.248825	-0.186254
ANX_12	0.691965	0.171462	-0.262233
ANX_14	0.859819	0.335741	-0.279270
ANX_2	0.570339	0.189198	-0.242138
ANX_3	0.829694	0.323197	-0.272025
ANX_4	0.773061	0.288323	-0.178374
ANX_5	0.631016	0.095504	-0.168571
AVO_10	0.249158	0.872083	-0.343471
AVO_5	0.120458	0.636199	-0.133873
AVO_6	0.344944	0.716228	-0.236695
PWB_1	-0.317503	-0.261884	0.838694
PWB_2	-0.217213	-0.205028	0.761831
PWB_3	-0.139055	-0.149115	0.661835
PWB_5	-0.209134	-0.118746	0.545966
PWB_6	-0.213857	-0.257490	0.727318
PWB_7	-0.313567	-0.404049	0.819033
PWB_8	-0.009222	-0.178951	0.560749

The measurement model of anxious attachment to God sub scale showed good composite reliability (CR) CR >0.7. The anxious attachment to God sub scale also possessed good convergent validity (0.539) as indicated by

Average Variance Extracted (AVE) above 0.5 (Dillon and Goldstein, 1984). All of factor loadings were ranging from 0.570 to 0.859. The measurement model analysis summary is presented below.

Table 5. Measurement model of anxious attachment to God subscale

Items	Factor loadings	Composite reliability	Average Variance Extracted (AVE)
ANX_10	0.741744	0.889	0.539
ANX_12	0.691965		
ANX_14	0.859819		
ANX_2	0.570339		
ANX_3	0.829694		
ANX_4	0.773061		
ANX_5	0.631016		

The anxious attachment to God subscale shows good discriminant validity as all items' factor loadings nested in their own construct. The

following table shows the information of the cross loadings of anxious attachment to God (bold).

Table 6. Cross loadings of anxious attachment to God items

Items	Anxious Attachment	Avoidant Attachment	Psychological Well-Being
ANX_10	0.741744	0.248825	-0.186254
ANX_12	0.691965	0.171462	-0.262233
ANX_14	0.859819	0.335741	-0.279270

Items	Anxious Attachment	Avoidant Attachment	Psychological Well-Being
ANX_2	0.570339	0.189198	-0.242138
ANX_3	0.829694	0.323197	-0.272025
ANX_4	0.773061	0.288323	-0.178374
ANX_5	0.631016	0.095504	-0.168571
AVO_10	0.249158	0.872083	-0.343471
AVO_5	0.120458	0.636199	-0.133873
AVO_6	0.344944	0.716228	-0.236695
PWB_1	-0.317503	-0.261884	0.838694
PWB_2	-0.217213	-0.205028	0.761831
PWB_3	-0.139055	-0.149115	0.661835
PWB_5	-0.209134	-0.118746	0.545966
PWB_6	-0.213857	-0.257490	0.727318
PWB_7	-0.313567	-0.404049	0.819033
PWB_8	-0.009222	-0.178951	0.560749

Structural Model

The structural model analysis was performed using 5000 samples bootstrapping (Hair, et al., 2001) and 105 cases bootstrapping. The first analysis deals with all of path coefficient analysis which involved all of relationship paths between both anxious and

avoidant attachment to God and psychological well-being. The coefficient of determination (R^2) is 0.156 for the psychological well-being endogenous latent. This means that the two latent variables (anxious and avoidant attachment to God) explain 15.6% of the variance in the psychological well-being. The following figure describe the result of algorithm analysis.

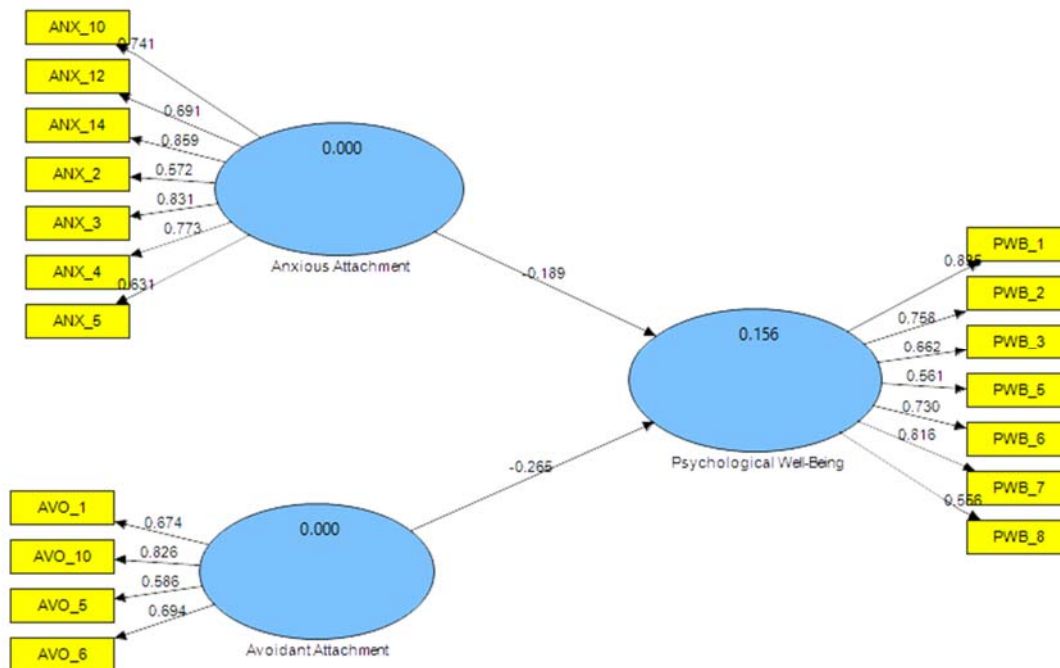


Fig. 1 The PLS path modeling estimation for psychological well-being

The analysis of T-statistics for generating significance testing of both measurement model (outer model) and structural model (inner model) conclude that only avoidant attachment to God which was significantly affect the psychological well-being. Using a two-tailed *t-test* at a

significance level of 5%, the path coefficient will be significant if the T-statistics is larger than 1.96. From the analysis, anxious attachment to God – PWB path coefficient is not significant ($1.894 < 1.96$). The following figure depicts the T-Statistics of path coefficients result..

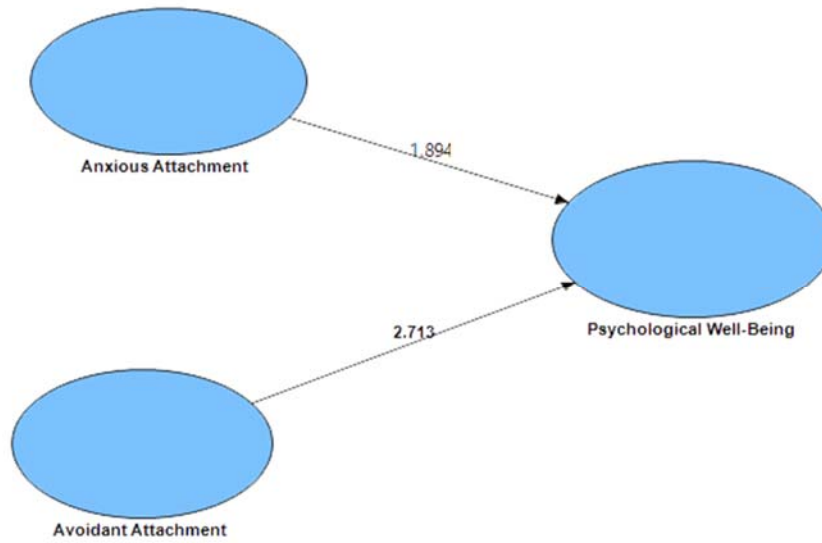


Fig. 2 The PLS path coefficient significance.

The PLS multi-group moderation

PLS multi-group moderation: Praise and worship group vs non praise and worship group

The PLS multi-group moderation in this study is intended to see whether the effect of avoidant attachment to God toward PWB is significantly different between those who practice praise and worship and those who do not practice praise and worship to God. Technically, those with praise and worship practices are coded “0” and those without praise and worship are

coded “1”. The SMARTPLS 2, however, is not designed to do the multi-group moderation analysis. The analysis is done through the application of the Kock’s formula (2013) by employing the pooled and Satterthwaite standard error methods. This method is implemented in the Excel spreadsheet in which standard error and path coefficients are calculated. The following is the formula how to obtain the T-statistics and p-value (two-tailed).

$$t = \frac{Path_{sample_1} - Path_{sample_2}}{\left[\sqrt{\frac{(m-1)^2}{(m+n-2)} * SE_{sample1}^2 + \frac{(n-1)^2}{(m+n-2)} * SE_{sample2}^2} \right] * \left[\sqrt{\frac{1}{m} + \frac{1}{n}} \right]}$$

Where:

m = the sample size of the first model

n = the sample size of the second model

SE₁ = Standard Error for the path coefficient in the first model

SE₂ = Standard Error for the path coefficient in the second model

t = T-Statistics

From the analysis, the two groups did not differentiate the effect of avoidant attachment to God toward PWB since the p-value is greater

than 0.05 (0.683). The following table depicts the information of the calculation.

Table 7. The multi-group moderation of praise and worship practices

	PW	No PW
Sample size	65	40
Regression Weight	-0.418	-0.371
Standard Error	0.066	0.102
t-statistic	0.409	
p-value (2-tailed)	0.683	

PLS multi-group moderation: gender.

Does gender differentiate the effect of avoidant attachment to God toward PWB? The analysis shows that the p-value is $0.907 > 0.05$

which means gender do not differentiate the effect of avoidant attachment to God toward PWB. Table 8 below shows the comprehensive statistical output.

Table 8. The multi-group moderation of gender

	Male	Female
Sample size	25	80
Regression Weight	-0.373	-0.390
Standard Error	0.059	0.079
t-statistic	0.118	
p-value (2-tailed)	0.907	

4. Discussion

The current results indicated that avoidant attachment to God was a significant predictor of psychological well-being in Christian university students. To be specific, this result supported the theoretical prediction of avoidant attachment to God and psychological well-being. As framed in the attachment literature, the avoidance dimension resembles a negative view of others. Thus, avoidance themes might present in relationship with God as Christian teachings view God in personification way such as a "Father". Avoidance with God might be expressed in the forms of discomfort with depending upon God, self-reliance without the help of God (Belavich & Pargament, 2002). Individuals with avoidant attachment to God believe that God is distant and has little concern about their lives (Kirkpatrick & Shaver, 1992). This condition created a dissonant cognition in that Christian teachings adopt God as Father figure / character while on the same time the individuals do not feel the closeness of God in their lives as their humanly father. This condition influences the quality of psychological wellbeing of Christian university students. Bowlby (1989) stated that the development or general lack of attachment behavior might impact the psychological wellbeing. To be specific, increase in avoidant attachment to God decreases the positive relation with others and personal growth.

Kirkpatrick and Shaver (1992) found that lower levels of anxiety and depression were

found in individuals with avoidant attachments to God as compared to those who are securely attached to God. Individuals with avoidant attachment to God are also considered as not having secure attachment to God. Rowatt and Kirkpatrick (2002) place secure and avoidant attachment as being opposite ends of a single continuum. Thus, individuals with avoidant attachment to God will rarely experience greater life satisfaction (Kirkpatrick and Shaver, 1992). Only individuals with secure attachment to God were reported to have greater life satisfaction. In conclusion, Christian individuals who develop their attachment figure without feelings of love, approval, closeness and warmth but with perception of attachment to God as consistently cold and distant will reduce their psychological wellbeing.

This study does not support the hypothesis that anxious attachment predicted the decrease in psychological wellbeing. In anxious attachment, individuals experience inconsistency and confusion, and attachment figures are experienced as warm and loving at some times, but removed and unreliable at the other time. This supposedly predicted decrease in psychological wellbeing. The possible answer for this uncommon finding is that the participants of this study experienced more avoidant attachment to God than anxious attachment to God. In this case, the participants did not experience ambivalent situations in their relationship with God because they eschewed closeness with God. The participants might have rational choice for not to get dependent to God

and live their lives based on their own autonomy and self-reliance.

Praise and worship practices were found indifferent in their moderation effect to the relationship between avoidant attachment to God and psychological wellbeing. This might be supported that majorly ATG style of the participants were avoidant, in which did not facilitate the need to worship and praise God in intimate, warm and loving manner.

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DEVELOPMENT OF INTERACTIVE COMPACT DISC (CD) BASED AUDIO VISUAL MEDIA FOR IMPROVING LISTENING SKILL ON LISTENING SUBJECT IN UNIVERSITIES

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ABSTRACT

Backgrounds of the research were the lectures got difficulties to find the appropriate teaching material for listening subject; many students were not interested to study listening and got bad grades, and there is no appropriate teaching material for Listening subject. The research is to find out about the development of teaching material of Listening Subject at English Department of STKIP PGRI West Sumatra. This research used descriptive qualitative method with the instruments such as questionnaire, document checklist and interview. Data were derived from the result of questionnaire filled by students Academic Year 2016/2017, document checklist from teaching material used, and interview with the lecturers. Population of the research was 72 students and the sampling was total sampling. After analyzing the data, from questionnaire filled up by students, it is found that almost all students agree about the items of teaching materials proposed by Hutchinson and Water. The results are 92.75% for 2016 A, 98.87% for 2016 B, and 92.46 % for 2016 C. The total is 94.69% students agree with the teaching material. From document checklist shows that the teaching materials used on Listening subject have not fulfilled provide a stimulus to learning, help to organize teaching learning process, use nature of language and learning, provide nature of learning task, broadening the teacher's knowledge, and provide correct and appropriate language use. Interview information shows that teaching materials for Listening subject are combination from many sources without being analyzed and investigated by lecturers. They also are lack of information about the learning outcomes, so that they could not predict or interpret the student's ability or input. Finally, the most important aspect is an appropriate teaching material must be made in order to fulfill the learning outcomes. By having the material, it will also help the lecturers to teach the student, guide the student to reach their learning objectives and improve their grades.

Keywords: *development, interactive CD, audio visual media, listening subject*

1. Introduction

National and global change, AFTA and MEA requires Universities to increase the quality of its graduated students. The changes also make the university to renew and find out the new innovation in a matter of strategy, method and learning media. It has a purpose to make the university be able to compete with other universities nationally and globally in an education field. It also causes STKIP PGRI West Sumatra to improve its educational quality from lecturers, students, learning materials.

There are 4 skills must be mastered by students in English such as speaking, writing, reading and listening. Listening is one of the required skills for student to be mastered because it will be a problem if it is not clearly-informed, well-set, fast delivery. Those items will give influence for both sides in a communication process. Each of the items are

well-connected each other in producing an English Skills.

One of the learning media used in teaching and learning is audio visual. It consists of audio and visual. Audio means that it has sound or voice, while visual means that it has moving pictures. So, audio media visual means a media consists of information sources both moving pictures and sound. It makes the learners can study through listening and sight. One of the audio visual media is based on interactive CD. Interactive CD means that the CD has appropriate learning materials in it. It is set based on the newest communication topics. So that, it can be applied directly in a daily life.

Based on the preobservation and interview toward Listening Subject in English Education program of STKIP PGRI West Sumatra, there were problems faced on the teaching and listening of listening subject. Firstly, there was no appropriate and suitable

learning media. The lecturers got difficulties to find out the materials.

Secondly, the learning materials had not well-organized yet. The media used was just media that had already had the audio where the audio itself was not clear or even too difficult for students. The effects were the student's grades were low and they were not interested to study the listening.

Thirdly, there were no interactive CD beside TOEIC and TOEFL as teaching and learning media. Mostly, the TOEIC and TOEFL media were used to teach the Listening skills. Though these interactive CD were important but it was not appropriate for teaching the Listening I for the students. It is clear that an appropriate Listening CD Interactive is important.

This research is limited on how English teaching media development is used on Listening Subject at STKIP PGRI West Sumatra. The research has purpose to produce an appropriate teaching material for students and lecturers and to increase the learning outcomes of students studying Listening Subject. It also improves the English Education Study Program to have effective and efficient teaching materials.

2. Method

Design of the research is descriptive qualitative. The researcher selects the design in order to describe about developing material in Listening subject of English Education Study Program at STKIP PGRI West Sumatra. Gay and Airasian (2000:275) states that descriptive qualitative research determines and describes the way things are and it can be used to investigate the educational problems and issues. In other words, it means that the descriptive qualitative shows the existing phenomenon on the site. So that, the researchers analyze the data based on the occurring phenomenon.

On other idea, Parse (2001: 57) mentions that descriptive qualitative is to study intensely a phenomenon to discover pattern and themes about live events, social sciences, and discipline-specific theoretical perspective in education. It is clearly stated that this kind of research design can find out an appropriate pattern to solve the problems in live, social sciences and prospective in education.

Source of data of the research are document of teaching material, questionnaire and information from the informants. The document of the research was teaching materials in lesson plan from the lecturers. Questionnaire was to find

out the students opinion about the teacher's teaching material used during teaching and learning. Informants are also used in order to observe that the data possessed similar to the phenomenon. There were two lecturers teaching the Listening Subject. They had made a single syllabus to be used in teaching and learning of English skill. So, the researchers only observe one of the teaching materials used by both lecturers.

Instruments of the research are really importance to collect, analyze data and even present the result. On this research, the researchers used document analysis, questionnaire and interview. Yusuf (2007:252) states that analysis document is one of data collection techniques. By using this technique, the researchers go the data to be analyzed. Population of the research for questionnaire was all of students studied Listening I registered on Academic Year 2016/2017 consisting 72 students. The researchers used total sampling for the research.

Then, the researchers also used questionnaire taken from the students. This questionnaire is very important to find out what the students feel and expect about the teaching materials given by lecturers. Last, they also used interview to collect the data. Interview is really useful to find out the hidden information from the existing phenomenon. Creswell (2013: 217) one on one interview means that the researchers asks question and record the answer from only one informant at the time. So that, the researchers conducted the interview by face-to face interaction. By collaborating these three instruments, it is expected that the original and real data found on the site.

Technique of data analysis really influences the result of the data. By having a correct and appropriate technique, it will give appropriate or valid data. Gay and Airasian (2000: 239) inform that there 6 components of data analyzing. They are data managing, reading/memoing, describing, classifying, interpreting, and writing the report.

To analyze the data, the researchers used the theory from Hutchinson and Water (2006: 106). It talks about some components in defining objectives of teaching material development. They are teaching material should provide a stimulus to learning, help to organize teaching learning process, use nature of language and learning, provide nature of learning task, broadening the teacher's knowledge, and provide correct and language use. They also used theory of taxonomy of the cognitive domain by Bloom in Huitt, W (2011). This theory gives significant

effect for the researchers in order to manage or set the quality of teaching material and organization of teaching material from easy to difficult topic.

3. Results

The researchers analyzed the instruments used on the researched started from the questionnaire, document checklist and interview. The analysis used the theories from Hutchinson and Water for questionnaire and document checklist. Then it is added by Bloom's theory about cognitive domain.

Having analyzing the data, the researchers find some findings from the instruments used on the research. First is from the student's questionnaire about the evaluation of teaching materials given by lecturers during teaching and learning on Listening subject. The samples were of students on Academic Year 2016/2017 consisting three classes. The total of the samples were 72 students. They are 2016 A, 2016 B and 2016 C.

After analyzing the questionnaire from the 2016 A, it shows that very agree 24.64%, agree 42.99%, adequate agree 25.12%. The total is 92.75 % where students agree about the teaching materials that should provide a stimulus to learning, help to organize teaching learning process, use nature of language and learning, provide nature of learning task, broadening the teacher's knowledge, and provide correct and language use. It can be seen as the following figure.

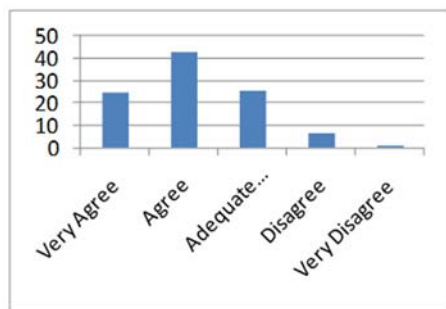


Figure 1. Questionnaire Result From 2016 A

Based on the questionnaire from 2016 B, it is found that very agree 31.48%, agree 52.17%, adequate agree 14.68%. The total is 98.87% where students agree about the criteria of teaching materials proposed by theory. It can be seen as the following figure.

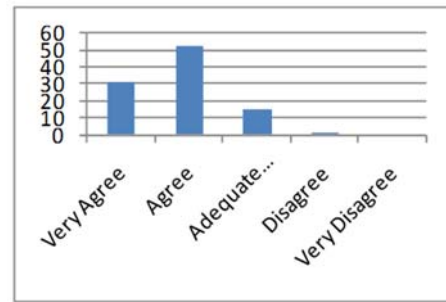


Figure 2. Questionnaire Result From 2016 B

Based on the questionnaire from 2016 B, it is found that very agree 24.32%, agree 42.99%, adequate agree 25.15%. The total is 92.46% where students agree about the criteria of teaching materials proposed by theory. It can be seen as the following figure.

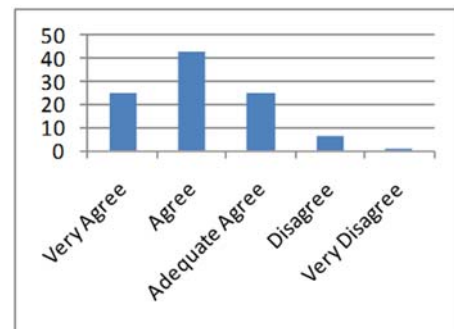


Figure 3. Questionnaire Result From 2016 C

It is concluded that from those questionnaire, almost all students agree about teaching materials provide a stimulus to learning, help to organize teaching learning process, use nature of language and learning, provide nature of learning task, broadening the teacher's knowledge, and provide correct and language use for students with the total 94.69%.

Next, the researchers used document checklist to observe about the teaching materials given by lecturers to students. It is found that, first, from *provide a stimulus to learning*, the teaching materials could not stimulate the students to study Listening. There are some reasons of it. They are the teaching materials were not really appropriate for the students. It is because they were first semester students. They were lack of knowledge about listening. Meanwhile, their topics were too broad and heavy for them.

Next, the teaching material did not make them enjoy to study, was not built from student's existing knowledge, and did not consider the student's level. It is because the teaching materials did not consider the level of the item

difficulties. There was no prior student's knowledge about the topics.

Second is about *help to organize teaching and learning process*. It shows that the lesson plan made did not relate to the learning objectives. Listening I is supposed to teach the students to master only until the level of words. Anyway, this lesson plans made the students study more than it should be. It also did not consider the complexity of language learning. Complexity of language learning must be drilled and explained more clearly.

Third is about *embodying a view of nature of language and learning*. The teaching materials and lesson plan show that it did not brainstorm the student's background stimulate task in teaching and learning process. It makes the students get difficulties to understand about the topics given. The teaching material also did not correlate the student's skill in understanding the material. It can be seen that there was not clear or specific objectives what skill will be possessed by students after learning. Then, it was not so clear that which part was important for students.

Fourth is *providing nature of learning task*. Based on the observation, it was seen that the materials was not clearly defined and set. From the lesson plan, it was clearly informed that the topics given were not arranged systematically based on the level difficulties. Then, the teaching materials were not simply-explained. The materials were not well-informed and the students got difficulties about the topics and unfamiliar vocabularies.

Fifth is *broadening the teacher's knowledge*. The lesson plan showed that the teaching materials did not attract the lecturer to be more creative in teaching. The lecturers only relied on the student themselves. The teaching materials also did not synchronize with teaching strategy in reaching the leaning objectives. It is found that that the teaching strategies used on lesson plan were quite monotone. It was lack of variation of it. By having monotone strategies, it also influenced the teaching and learning process.

Sixth is *providing correct and appropriate language use*. It can be seen that the teaching materials used still applied language learning than language practices. Listening I should be focused more to language practices because it will be a basic knowledge for the students to comprehend and master their English skills, especially in Listening.

In relation to Bloom's theory about the taxonomy of the cognitive domain, the teaching material is quite far from it should be. Based on

the curriculum of English Education Study Program, Listening I is focused on mastering the letter until the words. Regarding to the Blooms theory, the student's ability should be in the level of application firstly.

The application level shows that student selects, transfers, and uses data and principles to complete a problem or task with a minimum of direction. On the contrary, the lesson plan and teaching materials given to the students by lecturers are not appropriate for the students. They should be study the basic knowledge of Listening. The students have been required to make structure of a statement, assumptions, and some questions about the certain topics. Teaching materials should consider the student's input or ability and even the learning outcomes of each subject.

Third instrument is interview. There were 2 lecturers of Listening subject interviewed by researchers in relation to this research. After interviewing the lecturers, it is found some information. They stated that there was no well-set or organized material. They combine the materials from many sources. Perhaps, they did not select the level of the item difficulties of the source. Next, they were also lack of information about the learning outcomes of Listening I. It is seen that the level of teaching materials given located on the level of analysis. Meanwhile, the first semester students should only select, transfer, use data and complete the task with a minimum direction.

4. Discussion

After analyzing those instruments, generally, it can be seen that that students as the ones who learn the English skill require that the teaching material should consider provide a stimulus to learning, help to organize teaching learning process, use nature of language and learning, provide nature of learning task, broadening the teacher's knowledge, and provide correct and appropriate language use. It is evidenced by the percentages of the questionnaire. They are 92.75% for 2016 A, 98.87% for 2016 B, and 92.46 % for 2016 C. By having considering the items, it will make them interest to study and even increase their grade.

Document checklist shows that many items have not been fulfilled by the given teaching materials. Teaching materials has not yet reached the learning outcomes and the sources of it also are not well-organized from the level of easy until difficult.

Interview information shows that teaching materials for Listening subject are combination from many sources without being analyzed and investigated by lecturers. They also are lack of information about the learning outcomes, so that they could not predict or interpret the student's ability or input.

The most important aspect is an appropriate teaching material must be made in order to fulfill the learning outcomes. By having the material, it will also help the lecturers to teach the student, guide the student to reach their learning objectives and improve their grades.

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THE EFFECT OF EXPERIENTIAL LEARNING MODEL ON NARRATIVE WRITING SKILL OF PRIMARY STUDENTS

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Abstract

The causes of writing problems in primary school are (1) students used to using mother tongue; (2) the theme specified in writing does not match the characteristics of students. The problem of writing is very influential on the ability of other students because many assessments in schools to universities rely on writing skills. That's why, this study aims to investigate the effect of experiential learning model on narrative writing skill of primary students. In addition the research was conducted to determine whether there are differences in the increase in narrative writing skill among students who received experiential learning and direct instruction. Samples of this research were fourth grade primary students in Karangpucung subdistrict, Cilacap. This research is using quantitative approach. This research is quasi experimental within nonequivalent control group design. Data collection techniques use narrative writing tests whose instruments have been validated by the expert or obtained an expert judgment. Therefore, data was analyzed by mann-whitney test because n-gain data is not normal distribute. The results of this research show that: there was a significant difference between the increase in narrative writing skills of students who received a model of experiential learning and direct instruction; there was a significant effect of model experiential learning on narrative writing skill and proved by mann-whitney test amount 0,000 and N-gain result was 0,53 in medium category. Therefore, the researcher suggests for the next researcher to make a further study of experiential learning model on other writing skills such as writing a report or writing argument or to other language skills.

Keywords: experiential learning, narrative, writing skill.

1. Introduction

One of the writing skills taught in elementary school is narrative writing skill. Narrative is a form of writing that seeks to create, tell, and sequence the actions of human beings in an event chronologically or take place in a unity of time[7]. Narrative writing aims to train students' skills in pouring ideas based on events they have experienced or experience[24]. Therefore, writing learning needs to get serious attention so that students have a confident attitude to pour ideas. However, data from the National Center for Education Statistics (NCES) in 2012 shows that students' writing skill from primary to tertiary education are still very low. The results of the writing skills test by NCES state that only three out of ten students have sufficient writing skills[17]. Based on data obtained from the NCES proves that writing is one of the skills difficult to master students. Therefore, students' difficulties in writing need to be identified so that students can be trained in writing early[13]. Writing training aims to enable students to have further writing skills at the next level[9].

Meanwhile, the causes of writing problems in primary school are students used to using mother tongue. Students have a tendency to use mixed language while doing writing assignments. The lack of a second language vocabulary possessed by students makes it an obstacle in writing so students have difficulty in putting ideas[3]. Writing problems experienced by elementary school students next is the theme specified in writing does not match the characteristics of students. The choice of writing theme is very influential on students' attractiveness towards writing. The mismatch of themes with the characteristics of students has an impact on the limitations of students' ideas in writing[21]. If you want to bring up a different theme then try to give the teacher experience to the students. Experience will give students an idea of new themes in writing. Students will write well if the theme is written according to their wishes. The idea of writing would be better if the students had a memorable experience[12].

The problem of writing is very influential on the ability of other students because many assessments in schools to universities rely on writing skills[22]. Therefore, writing needs to be

familiarized and carried out routinely since students get primary school education. Teachers have an important role in improving students' writing skills. Teachers can not force all students to be proficient in writing but teachers can encourage students to like writing activities[8]. One of the keys for students to have high writing skills is that students must have a lot of vocabulary and understand the use of grammar and spelling[1].

Based on the problems of writing that have been described then it is necessary an attempt to improve students' writing skills through innovative learning. Various attempts have been made by previous researchers to refer to the use of cooperative learning model or image media. However, the use of cooperative models focuses more on inter-student collaboration and thus less experience as an idea in writing. Therefore, learning needs to give students a lot of experience. Experiential learning is a learning model based on Kolb's theory[11]. This theory emphasizes the needs of the learning environment by providing opportunities for students to learn to develop and build knowledge through their experience[26].

Experiential learning provides an alternative to learning and provides a real understanding of how to gain meaningful students in learning. Experiential learning centers on one meaningful purpose for students, continuous with student life, interaction with the environment, and increasing student integration[20]. Experiential learning model has five steps that start from experience process, share, analyze experience, summarize (generalize), and apply[2]. Through experiential learning students gain abstract or concrete

experience as the basis for the development of ideas in writing.

Another researcher have applied experiential learning model to improve students' writing confidence[16]. This study is a classroom action research on students who attend leadership class. The results show experiential learning model can improve students' writing confidence which is proven through test result, questionnaire, observation, and interview[16]. Based on previous research, the researcher conducted quasi experimental research with the aim to experimental learning experiment model influence to the writing skill of elementary school student.

2. Research Methods

This research uses quasi experimental research method with nonequivalent control of group design. Quasi experimental research is a design that can not fully control in group determination through random assignment so that the sample is selected not randomly[23]. Quasi experiments involve placement (but not random placement) of participants to the group because the experimenter can not create the group artificially for his experiment[4]. The sample of this research is the fourth grader of elementary school in Karangpucung, Cilacap. The experimental and control group was subjected to pretest first and then the experimental group was given special treatment. Subsequently, the experimental and control groups were subjected to posttest to see the effects of treatment on the experimental group. The following is a quasi-experimental research design drawing by researchers:

Group A	O ₁	X	O ₂
Group B	O ₃		O ₄

Picture 1. Nonequivalent Control Group Design^[5]

Explanations:

- X : Treatment uses experiential learning model
- O₁ : Pretest on experimental group
- O₂ : Posttest on experimental group
- O₃ : Pretest on control group
- O₄ : Posttest on control group

Data collection techniques use narrative writing tests whose instruments have been validated by the expert or obtained an expert judgment. Data analysis in the study using inference statistics to test the research hypothesis with $\alpha = 0.05$. Hypothesis testing is done by

entering the n-gain data of narrative writing test to be tested for normality. If the test result is normally distributed then it is continued with homogeneity test. If the test results show homogeneous data then continued with t-test or independent sample test. Meanwhile, if the

normality test results state that the data is not normally distributed then the next step is to use nonparametric mann-whitney test^[19].

3. Results and Discussion

This study aims to test the influence of the experiential learning model on the skills of writing the narrative of fourth grade students of elementary school. Hypothesis of this research as follows:

H₀: There is no significant effect of experiential l

earning model on narrative writing skill of primary students.

H₁: There is significant effect of experiential learning model on narrative writing skill of primary students.

Hypothesis testing is done based on the acquisition of n-gain. The gain value obtained in this study is 0.53 and is in the medium category. Next, the researchers tested normality against n-gain. The result of n-gain normality test can be seen in Table 1 below:

Table 1. N-gain Tests of Normality

Tests of Normality				
	Shapiro-Wilk			
	Statistic	Df	Sig.	Result
eksp	,901	28	,012	H ₀ rejected
kontrol	,586	28	,000	H ₀ rejected

Based on table 1 it can be seen that the n-gain normality test obtained a result of 0.012 for the experimental class and 0,000 for the control class. The scores are smaller than 0.05 so the data is not normally distributed. Because the data is

not normally distributed, the next step is nonparametric test with mann-whitney. Nonparametric test results can be seen in table 2 below:

Table 2. N-gain Tests of Mann-Whitney

Test Statistics ^a	
	Nilai
Mann-Whitney U	104,000
Asymp. Sig. (2-tailed)	,000
Result	H ₀ rejected

a. Grouping Variable: kelas

Based on table 2 it can be seen that the test results mann-whitney get a score of 0.000. The result is smaller than 0.05 so that H₀ is rejected. The result of mann-whitney test shows that there is There is significant effect of experiential

learning model on narrative writing skill of primary students. Meanwhile, the result of mann-whitney test on narrative writing skill between classes with experiential learning and direct instruction can be seen in table 3 below:

Table 3. Posttest Results of Mann-Whitney

Test Statistics ^a	
	Nilai
Mann-Whitney U	161,000
Asymp. Sig. (2-tailed)	,000
Result	H ₀ rejected

a. Grouping Variable: kelas

Based on table 3 it can be seen that the score obtained from the mann-whitney test is 0.000. The result is smaller than 0.05 so it can be concluded that there are differences in narrative writing skills between students who have

experiential learning and direct instruction. The result of hypothesis test shows that there is influence of experiential learning model to the writing skill of elementary school student. Improving students' narrative writing skills is

particularly prominent in aspects of developing ideas of essay, vocabulary, and spelling use. This shows that experience is one of the most important components of learning. Through experience students can find meaning in learning.

According to Ausubel, meaningful learning will occur if the new information received by students has a close relationship with existing concepts that have been / received previously and stored in the cognitive structure. Ausubel explained that experience gives students a way to find understanding instead of accepting understanding^[6]. Therefore, experiential learning has an effect on student writing skill. Each experience gives meaning so that students can write ideas about their experiences.

Meanwhile, hidden effect of experiential learning that students seem to follow learning with enthusiasm and joy. Enthusiasm when learning occurs because students get a fun learning experience such as playing dragon snake, bentengan, and doing adventure. Every learning there is a reading activity so that it can add and update students' vocabulary. Student involvement in learning will give experience so that students can construct their knowledge. This is in line with experiential learning theory proposed by Kolb that learning is a process for building knowledge through a series of concrete and abstract experiences^[25].

Student involvement in learning can be an experience that plays an idea in writing. Therefore, experiential learning can be an alternative in improving students' writing skills. The results of this study are in line with previous research conducted by other researchers. First researcher conducted quasi experimental research in class X SMA to experimental learning influence on recount text writing skill^[14]. The result of this research shows that there is influence of experiential learning model on recount text writing skill in class X SMA. This is evidenced based on the results of t-test that obtained a score of 1.75 is greater than t table is 1.67 so the research hypothesis is accepted^[14].

Furthermore, second researchers conducted a classroom action research to improve the writing skills of fourth grade students of elementary school through the application of experiential learning model^[15]. The result of this research shows that the application of experiential learning model can improve the writing skill of fourth grade students of elementary school. Improvement is evidenced from the writing of students who almost fulfill aspects of authorship. In addition, the results of

interviews with students stated that experiential learning has a positive impact. Students are accustomed to writing down everything that happened and no day pass without writing^[15].

Learning through experiential learning helps students to write based on the experience gained so that writing feels great fun. Therefore, teachers need to improve their writing skills to support students' writing skills. Teachers who have a lot of insight and give students the freedom to express feelings will motivate students to write^[18]. Themes in writing do not have to be determined by the teacher because writing will be better if the student determines the story idea. What teachers need to do is to direct students to write by looking at aspects of writing^[10].

4. Conclusions

Based on research and data research results that have been implemented, it can be concluded that there is a significant effect of experiential learning model on the writing skill of elementary school students. In addition, there are differences in writing skills between students who get experiential learning with those who get only direct instruction. The results of this study is proved by the test mann-Whitney who earned a score of 0.000 so H_0 rejected. This study aims to test the effect of experiential learning model on narrative writing skills. Therefore, the researcher suggests for the next researcher to make a further study of experiential learning model on other writing skills such as writing a report or writing argument or to other language skills.

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ENHANCING MATHEMATICAL UNDERSTANDING ABILITY BY DISCOURSE LEARNING WITHIN MATHEMATICAL BET LINE STRATEGY IN THE FOURTH GRADE PRIMARY STUDENTS

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Abstract

This study based by Farida's result in 2015 about error analysis of eight grade students at one of secondary school who have solving mathematics story problems badly. That problems caused by low mathematical understanding skills at students. That problems also can be avoid when low mathematical understanding skills has taught since in primary. This research aimed to describe data of enhancing student's mathematical understanding skills by using discourse learning within Mathematical Bet Line strategy. This research is quasi experiment within nonequivalent control group design. Samples of this research were fourth grade students in one of primary school at Kuningan subdistrict, Kuningan region. Instrument of this research was mathematical understanding tests. Statistic analysis in this research used independent sample t-test. The result of this research shows that student's mathematical understanding skills who used discourse learning within Mathematical Bet Line strategy was better than student's mathematical understanding skills who used Direct Instruction at fraction subjects. The conclusion of this research shows that discourse learning within mathematical bet line strategy can improve student's mathematical understanding skills and proved by N-gain 0,67 in medium categories. Based of study results, I suggest to the other researcher to advanced this study with the other subject and mathematical skills.

Keywords: discourse learning, mathematical bet line, mathematical understanding

1. Introduction

In everyday life, people will find problems to be solved and related to mathematics, such as numeracy, social arithmetic, and others. Mathematics is important in everyday life for activities such as counting, cooking, managing money, and building things [1]. One of the process skills students have through mathematics learning is the ability of mathematical understanding. Conceptual understanding is the ability to understand concepts, operations, and relationships in mathematics [2, 3]. Understanding can be defined as a measure of the quality and quantity of an idea relationship with an existing idea [4]. Students who have conceptual understanding will understand the importance of mathematics as well as the usefulness of a context in mathematics.

In the 21st century, there are four minimal learning competencies that must be mastered by students: high comprehension ability, critical thinking ability, collaboration and communication ability, and creative thinking ability [5]. High understanding ability is the main competence that must be developed in the current learning. The ability of mathematical understanding is important to be developed so

that students can solve real life problems by applying the mathematics that they have learned and understood.

Mathematical understanding classified in two levels as follows [6]: (a) Instrumental understanding: memorizing concepts/principles with no other connection, can apply formulas in simple calculations, and work on algorithmic calculations. This ability belongs to a low level of ability. (b) Relational understanding: linking one concept/principle to another. This ability belongs to a high level of ability.

This study has done by researcher before [7] about error analysis of eight grade students at one of secondary school who have solving mathematics story problems badly. That problems caused by low mathematical understanding skills at students. This study also done by the other [8] that the level of understanding of mathematical concepts of students at one of secondary school is still low. The low understanding of mathematical concepts of students at the junior level can be avoided early on ie at the elementary level. Mathematics education in primary school as the basis for children has an important role in supporting higher education process [9]. Mathematics learning in elementary school has a very

important position in the effort to realize the purpose of teaching mathematics that has been established [10].

Improved mathematical understanding can not be achieved by students if learning is oriented only on procedural and routine issues. Teachers should apply approaches, strategies, and learning models that enable students to engage in learning both mentally, physically, and socially so that students' abilities can flourish and planned learning objectives can be achieved.

One of the alternative learning strategies that can be applied is the learning of discourse. Mathematical discourse is one of the core mathematics learning in building a decent argument and criticizing the opinions of others [11]. Mathematical discourse allows students to explain, justify, and debate their individual techniques for solving math problems and supports the development of conceptual understanding [12, 13]. Effective mathematics learning is learning that facilitates discourse among students to build an understanding of mathematical ideas through the activities of analyzing and comparing student arguments [2]. Mathematics discourse is seen as a vehicle for enhancing student learning [14]. To engage students in a productive mathematical discussion, it is important for teachers to create a learning environment that supports student involvement [15, 16]. Such learning can provide an opportunity for students to share mathematical ideas and clarify their mathematical understanding.

There are two aspects of discourse, namely cognitive discourse and motivational discourse [17]. Cognitive discourse refers to what the teacher says to promote the conceptual understanding of mathematics itself. Discourse motivation refers not only to praise students, but also to support students to participate in classroom discussions.

Discourse learning requires students to evaluate and interpret the views, ideas, and other mathematical arguments and construct valid arguments by themselves. Discourse develops a more creative and independent thinker while strengthening procedural knowledge [18]. The learning of mathematical discourse supports students in mathematical communication, both written and oral that occur in the classroom as they develop a new mathematical understanding [19]. Meaningful discourses occur when carefully chosen tasks and when the teacher returns in the previous step allows students to move to their own learning center [20]. Student engagement in meaningful structured mathematical discourse provides an opportunity

to explain and evaluate their thinking. A focus on the details of student thinking and what students are able to do, as opposed to what they cannot do, may assist teachers in leveraging students' existing understandings and experiences to design instruction that matches the needs of the learner [21]. Written discourse has certain advantages because the act of writing is a reflective process that can further improve understanding [22]. The written discourse also creates a record of student work, enabling educators to assess the strengths and weaknesses of metacognitive and student problem solving skills [23].

The Mathematical Bet Line is designed to promote discourse classes and support sense-making when teachers offer lessons on mathematics stories [24]. Bet Line is adapted from English learning that teachers give a story then the teacher asks students to dialogue about the story they just read and make predictions of the continuation of the story.

In mathematics learning, the Mathematical Bet Line is used as a conversation between teacher and student that begins by opening the problem and stops when students can anticipate and predict what will come up later in the problem. The goal of discourse learning with the Mathematical Bet Line strategy is to help students understand the story by focusing on the context of the story given to the problem and then making predictions. This strategy requires teachers to facilitate class discussions and monitor sense-making through questions about the implications of student predictions. That way students can understand the context of the story, predict the problem, and think to solve the math story problem.

Discourse learning with Mathematical Bet Line strategy has been done by previous researchers to improve the students' mathematical understanding of second grade about sum and subtraction counting operations. The study was conducted by another researcher [24] with the results of the study showed that students' mathematical understanding ability increases. Based on that, the researcher will conduct quasi experimental research with the aim to describe the data of improvement of mathematical understanding ability of fourth graders of elementary school that follow discourse learning with Mathematical Bet Line strategy better than students who follow learning with Direct Instruction.

2. Methods

This research uses quantitative approach with quasi experiment method. The experimental design in this study was to refer to the Nonequivalent Control Group Design design. The population of this study is the fourth grader of one of the public elementary schools in Kuningan District. The sample of research is all students of class IV which amounts to 55 students. The researcher classifies the research samples into two groups, namely the experimental group of 27 students and the control group of 28 students. The selection of group of research sample is done by purposive and not done randomization. This is because the subject to be studied is a subject that has been registered in its class. So do not do random grouping. If the formation of a new classroom will probably cause the learning process in school is disrupted. Quasi experiment involves placing (but not random placement) participants to the group because experimenter can not create groups artificially for his experiments [25].

The research procedure consists of three stages namely, the preparation stage, the implementation stage, and the data analysis phase. The preparatory phase begins with a preliminary study by identifying research problems, conducting literature review, developing research hypotheses, preparing steps in implementing actions, and selecting research subjects consisting of experimental and control class. At this stage is also done preparation of research instruments, instrument testing, and instrument repairs, so that at this stage obtained a research instrument that is ready and worth using. The second stage begins by giving a pre

test to the two classes to find out the students' early mathematical comprehension skills. After the pre test, followed by carrying out the learning in the experimental group that is by applying the discourse learning with Mathematical Bet Line strategy and learning with Direct Instruction in the control class. After all the learning activities completed post test in both classes. Post test provides an overview of the influence of learning on the students' mathematical understanding. Phase data analysis is done by processing and analysis of research data as well as writing the results of the research in full. Data analysis used was test of difference of two mean with pay attention to normality and homogeneity.

The instrument used in this study is a matter of test. This test is used to measure students' mathematical understanding. The test of mathematical comprehension ability in the form of a description prepared by the researcher in accordance with the indicators.

3. Results and Discussion

The research was conducted on the application of discourse learning with Mathematical Bet Line strategy on mathematics learning about the concept of fractions in class IV. The implementation of the study was conducted during eight meetings. In this study data analyzed include pre test score and post test of mathematical pemaaman ability. Based on the pre test and post test scores were calculated the N-gain value of mathematical understanding in both classes. The following are descriptive statistics of pre test, post test, and N-gain scores in the experimental and control class.

Tabel. 1 Descriptive Statistic of Mathematical Understanding Ability

	Experiment Class				Control Class			
	N	Min Score	Max Score	Average	N	Min Score	Max Score	Average
<i>Pre Test</i>	27	7	26	17,7	28	10	31	19,89
<i>Post Test</i>	27	9	40	32,63	28	12	37	25,536
<i>N-gain</i>	27	-0,12	1	0,67	28	-0,17	0,86	0,28

Before doing the learning, the researcher first pre-tested the two classes. The result of the preliminary data analysis shows that the experiment class data is not normally distributed, while the control class data is normally distributed. Mann Whitney test was then conducted to determine the difference of the average ability of mathematical understanding of control class and experiment class before action. The result shows Sig value. (2-tailed) is 0.353 greater than the significance level $\alpha = 0.05$ so there is no difference in the average ability of

mathematical understanding between the experimental class and control class before the action is done or both classes come from the same conditions.

After getting different treatment, it can be seen that the post test data of mathematical understanding ability of the two classes is different. It is also proven on the basis of statistical tests with the result that both classes are normally distributed and homogeneous variations. Then, then tested the average difference with the Independent test t-test. The

test results show the Sig value. (2-tailed) is 0.001 is smaller than the significance level $\alpha = 0.05$ so that there is difference in post-test average ability of mathematical understanding between experimental class and control class.

To know the data of improvement of mathematical comprehension ability based on learning is analyzed using N-gain ability of mathematical understanding in experiment class and in control class. The average difference test of N-gain of mathematical comprehension ability is done to prove the research hypothesis that the average N-gain of students' mathematical understanding ability following the learning with Mathematical Bet Line strategy is better than the students who follow the learning with Direct Instruction. Based on statistical test through Independent test t-test known Sig value. (2-tailed) is 0,000 smaller than the significance level $\alpha = 0.05$, meaning that the average N-gain students' understanding of mathematical ability of the experimental class is better than the control class. In other words, the mathematical understanding of the students following the discourse learning with the Mathematical Bet Line is better than students who attend the Direct Instruction lesson.

Based on the results of processing and data analysis, it is found an increase in the ability of mathematical understanding of students who follow the discourse learning with Mathematical Bet Line strategy and students who follow the learning with Direct Instruction. The improvement of mathematical understanding of the experimental class is evidenced by the N-gain of 0.67 is in the medium criterion. Meanwhile, in the control class N-gain of 0.28 is on the low criteria. The result of testing of statistical test shows that the ability of mathematical understanding of fourth graders in one of the public elementary schools in Kuningan sub-district that follow the learning of discourse with Mathematical Bet Line strategy is better than the students who follow the learning with Direct Instruction on the fractional material.

The results of this study complement the results of previous research conducted by others [24] that learning with Mathematical Bet Line strategy can improve students' mathematical understanding. Improvement of students' mathematical understanding ability can not be separated from the activity of learning done. On learning discourse with Mathematical Bet Line strategy begins with conversation between teacher and student. The teacher gives the problem of unfinished stories and stops when students can anticipate and predict what will come up later in the problem. In this stage the

student tries to build his argument, criticize the arguments of others, and defend his own argument.

In the first three meetings, students are still embarrassed in giving their arguments. Learning discourse with active students and giving each other arguments and analyzing the arguments of others then emerged at the fourth meeting. It is not easy for the teacher to have all students participate in discourse learning. For that reason, it is important for teachers to create a learning environment that supports student involvement [15, 16]. Teachers should come up with questions that provoke students to argue. Therefore, knowing what questions to ask as well as when and how to ask them is crucial [26]. Questioning is used to facilitate classroom discourse that offers room for students to build their understanding [27]. In addition, teachers provide motivation to students. As revealed others [17] that there are two aspects of discourse, namely cognitive discourse and motivational discourse. Giving motivation is done by the teacher by giving praise and reward.

In the process of staking the argument, the teacher gives the students an opportunity to give their opinions by continuing the story. The teacher insists that there is no wrong student opinion, all student opinions are declared correct and written on the board. For example, in the learning process of counting fractional counting operations, there are student opinions that are not related to the context of the unfinished story. The teacher keeps writing her opinion, prompting other students to risk different opinions by responding to inappropriate opinions.

The next learning process, students are grouped into several groups consisting of four students. In the group, students answer group worksheets that must be solved with a mathematical bet line strategy, ie all students risk their opinions, so the best opinion is chosen according to each group. That way students can understand the context of the story, predict the problem, and think to solve the problem of mathematics. To increase student involvement in the discourse with the group, the teacher provides motivation and rewards for the best three groups at each meeting.

The application of discourse learning with Mathematical Bet Line strategy emphasizes the involvement of students actively finding and constructing their own knowledge through the experience they experience based on prior knowledge. As the meaning of learning proposed by Bruner [28], the active process in which students constructing new ideas or concepts that have been previously owned. This is in line with

the view of constructivism, that one's knowledge comes from outside the student's self but is constructed within the student [29].

Cooperation among students in groups has a role in improving the ability of mathematical understanding. Interaction with others in completing the work sheet in groups stimulates the development of its cognition. As Vygotsky's Zone of Proximal Development (ZDP) concept states that one is able to reach a level of potential development with the help of others who are more capable [30]. Students who provide opinions and comments point to mathematical concepts that other students in the group have not understood.

Based on the above explanation, through learning of discourse with mathematical bet line strategy, students have increased the ability of mathematical understanding on fractional concepts which include explaining the meaning of fractions and sequences, simplifying various fractions, adding fractions, reducing fractions, and solving problems related to fractions.

4. Conclusions

Application of discourse learning with Mathematical Bet Line strategy stimulates students to be actively involved during the learning process through student opinion betting so that students can build their own mathematical understanding. Giving motivation to celebrate students' success in the learning process can lead to student involvement. Thus, the improvement students' mathematical comprehension skills that follow discourse learning with Mathematical Bet Line strategy is better than students who follow Direct Instruction learning. The study of discourse learning with Mathematical Bet Line strategy is done only about the concept of fractions in class IV. Therefore, it is suggested to the next researcher to be able to continue research on other subjects as an effort to develop students' mathematical thinking ability.

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THE EFFECT OF STUDENT FACILITATOR AND EXPLAINING ON THE AFFECT OF STUDENT FACILITATOR AND EXPLAINING WITH SCIENTIFIC APPROACH ON MATHEMATICS ACHIVEMENT

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Abstract

The aim of the research was to determine the effect of learning models on mathematics achievement. The learning model compared were student facilitator and explaining with scientific approach (SFEs), student facilitator and explaining (SFE), and direct learning. This research used quasi-experimental research. This research used random sampling technique. The instruments used were documentation, questionnaire, and test. The data analysis technique was used unbalanced one ways anova at the significance level of 0.05. Based on the data analysis, it can be concluded as follows: (1) SFEs with scientific approach gives better achievement than SFE and direct learning, and SFE gives better achievement than direct learning, 2) the participation of students in f the process of learning using SFEs learning models on the material of retrieved the lowest percentage was 75%.

Keywords: *Student Facilitator and Explaining, Scientific Approach, Participation*

1. Introduction

Education is one of the factors that support the development of an individual, good education obtained informal, non-formal or informal. Each place or the institution has a very important role in the development of an individual, for example, education in formal institutions such as schools, madrasah, and etc. The development of individual institutions in a directed through the learning process in accordance with the level of education. Every level has a criteria or standards that must be achieved in the process of learning or commonly called the criteria standard for graduates (SKL). Through this SKL educators, educational units, as well as the Government can see the extent to which the development of the student in following the process of learning.

Developing learning paradigm is currently a student-centered learning. According to Permendikbud 23 number 2016 that "Learning is a process of interactions between students, between students with teachers and learning resources in a learning environment", in this case there are students who are less interested in following the process of learning with subjects that they deem such difficult math lessons.

Mathematics is the very lesson was instrumental in the development of the knowledge science and technology. On the other hand mathematics can also be used to help

resolve the problems that exist in everyday life. But in fact, over the development of science is not accompanied by the results of learning math. According to PAMER UN data 2015 and 2016, average maths exams the country nationally by 2014/2015 i.e. 56.28 whereas the year 2015/2016 dropped to 50.12. It shows that there are still problems linked to the descent of the achievements learning of students.

The decline in the results of the study are also experienced in the various provinces that existed in Indonesia, one of which is the province of Central Java. According to PAMER data 2015 and 2016 there are four competencies are to be tested in a national exam that is operating the operating numbers, algebra, geometry and measurement, as well as statistics and odds. The geometry of the four competencies and measurements have lowest absorption than others. The percentage of absorption of geometry and measurement school year 2014/2015 i.e. 53.60% whereas the academic year 2015/2016 dropped to 50,39 percent. Further views of the students examined the question of indicators is still a difficulty in understanding and circumference related story problem area which is specified already. These data indicate that there are certain factors which resulted in difficulty students to studying the geometry and measurements of material such as a quadrangle.

From the results of an interview with one of the teachers in Surakarta, the difficulties of the students is less understand the concept of the circumference of a quadrangle, the number of angles, and understand the problem of the story. In addition, the time required to deliver the material in terms of the four less because the material is pretty much that the material delivered in a nutshell. This teachers are more likely to use direct learning rather than discussion, because the discussion takes time enough so that students can truly understand the concept of a quadrangle. Further discussions took place some students also still confused wanna be work out. Props or media used to denote objects that resemble a square also has not been adequate. Lack of attention when students followed the learning process so that students are still not motivated. This shows that the teacher is a source of information for students.

Source of information not only from the teacher alone but could with other friends, from printed books or internet. Along with the development of information technology, new information obtained by students are also more and more. This shows that the direct learning-and teachers centered less affective. In line with the opinion of Silberman (2006: 23), "I hear, I forget" This means students will easily forget what they heard. In addition, the concept is studied in mathematics not only memorizing but also require understanding. Therefore, the need for changes in the process of learning so that students can interact as well as improve student learning outcomes. One way is to used a model of learning. The intended learning model is a model of learning which may give rise to interactions between students as well as students with a teacher that is a cooperative learning model.

In accordance with the opinion of the Tran and Lewis (2012), show that cooperative learning is more effective than the conventional learning. The application of cooperative learning have vast influence both in the group room as well as in private life a person as expressed by Kupczynski et al. (2012: 82) that, "*The positive impact of Cooperative Learning has far reaching effects that extend beyond the group room, into participant professional and personal lives*".

In line with the results of research conducted Hsiung (2012) concluded "*that given a sufficient period of time for the cooperative learning teams to mature, the students in the cooperative learning condition performed substantially better in both the homework and unit tests than those in the individualistic learning condition*". Cooperative learning

students with substantially better than individual learning in the task or test. Therefore, cooperative learning can make students motivated in following the instruction. As for one of the learning model.

SFE learning model which has advantages i.e. gives the opportunity to students to present ideas or opinions to the other students. In addition, students are also trained independent in the face of every problem solved as well as encourage the growth of students ' courage in presenting opinions. According to the results of the research Haresti (2014), models of learning approach with scientific SFE can increase motivation and achievements learning of students. This is shown from the results of the awarding of the question form and observation. From the students more active research and participate in the learning process.

Klinger (2006) declared that learning with peers can increase participation and interaction for following the process of learning. Peers can also foster the motivation of the student. Toumasis (2013) concluded that learning groups can help motivate students. In addition, according to the research results of Muslims (2014) ability of critical thinking and problem solving mathematics students who follow the cooperative learning type SFE better than the students who follow direct learning. The research objectives one:

1. To determine the achievement of students using model *Student Facilitator and Explaining (SFE)*
2. To determine the participation of students using model *Student Facilitator and Explaining (SFE)*

2. Methodology

This research is quasi experimental research using the *True Experimental Design*. In this research used 90 participants and divided became 3 groups. Experiment groups 1 with SFEs learning model, Experiment groups 2 with SFE learning model and control group used direct learning.

Data collection techniques used in this research method documentation, observation, and test. The documentation methods used to collect data about the student's exam results in the matter of quadrangle. Observation methods used to explore the student participation find out the participation of the students. The test method was used to measure student achhivement in quadrangle.

Test the hypothesis of research conducted with the t-test, to test a prerequisite before test

hypotheses include normality and homogeneity test. Data normality test uses the Lilliefors test and homogeneity test data uses Bartlett test with significance level (α) = 5% (Budiyo, 2009).

3. Result And Discussion

Normality test is done on experimental group and a control group. Normality test uses Kolmogorov - Smirnov test. The result of normality tests at the beginning ability is shown on the table below.

Table 1 Tests of Normality

perlakuan		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Nilai	1	.136	30	.162	.933	30	.060
	2	.115	30	.200*	.967	30	.464
	3	.095	30	.200*	.970	30	.548

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Based on the 1st table above, on each sample gets sig > $\alpha=0,05$ so that H_0 is accepted. It means, each sample that will be attached treatment and being control in this research come from populations that normal distribute.

Table 2 Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
nilai	Based on Mean	1.654	2	87	.197
	Based on Median	1.663	2	87	.196
	Based on Median and with adjusted df	1.663	2	79.517	.196
	Based on trimmed mean	1.675	2	87	.193

Next, doing the homogeneity test, to know whether the sample that will be attached treatment and being control in this research has the same variance. The result of the homogeneity test at the beginning ability between the experimental group and control group is get sig > $\alpha=0,05$. so that H_0 accepted. It means the sample that will be attached treatment and being control in this research has homogen variance.

Table 3 ANOVA

Nilai	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2202.822	2	1101.411	8.880	.000
Within Groups	10790.967	87	124.034		
Total	12993.789	89			

Of results calculate the one way anova in the table above was obtained sig (. 000) which means less than 0.05. This shows that there is a difference between experimental groups 1, experimental groups 2, and control group.

Table 4 Multiple Comparisons

uji
Scheffe

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	3.96667	2.87558	.390	-3.1950	11.1283
	3	11.90000*	2.87558	.000	4.7384	19.0616
2	1	-3.96667	2.87558	.390	-11.1283	3.1950
	3	7.93333*	2.87558	.026	.7717	15.0950
3	1	-11.90000*	2.87558	.000	-19.0616	-4.7384
	2	-7.93333*	2.87558	.026	-15.0950	-.7717

*. The mean difference is significant at the 0.05 level.

Based on table 4 models of learning have SFE and SFEs differences that significantly to direct learning. While the learning model SFEs and SFE are same.

Student Achievement Data

in this study student learning achievement data measured using tests given to students in group room experiments after the learning process is complete. The student achievement were group ified into five categories, namely high, medium, and low. As for the description of achievements learning of students data on experimental group es can be seen in table 5.

Table 5. Student Learning Achievement data of experiment 1 Group

Criteria	Average	Sum
High	$X > 77,87$	12
Middle	$70,73 \leq X \leq 77,87$	10
Low	$X < 70,73$	8

From the table 5 above shows the overall value of student learning achievement at group room experiments as much as 30 students. Student achievement in high category as much as 12 students, middle category as much as 10 students, and low categories as 8 students on average by 74.33. In addition to a group experiment, learning achievement tests are also given in the control group.

Table 6. Student Learning Achievement data of experiment 2 Group

Criteria	Average	Sum
High	$X > 80,678$	8
Middle	$68,788 \leq X \leq 80,678$	16
Low	$X < 68,788$	6

From the table 6 above shows the overall value of student learning achievement at group room experiments as much as 30 students. Student achievement in high category as much as 8 students, middle category as much as 16 students, and low categories as 6 students on average by 66.8. In addition to a experiment 2 groups, learning achievement tests are also given in the control group. As for the description of student learning achievement data control group is shown in table 7.

Table 7. Learning Achievement data of control group

Criteria	Average	sum
High	$X > 72,986$	10
Middle	$60,6149 \leq X \leq 72,986$	9
Low	$X < 68,788$	11

From the above table 7 shows the overall value of student learning achievement on the control group s as many as 30 students. The achievements learning of students in high category as much as 10 students, the middle category as much as 9 students, and low categories as much as 11 students on average by 74.33.

From table 5 and table 6 shows that the achievements learning of students from the group of experiments and also the group of the control. On the table there is a difference visible achievements of student learning in group experiments with group room control. As for the differences was showed in Figure 1.

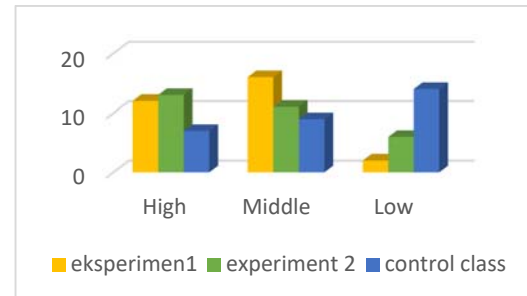


Figure 1. Diagram of achievements learning of Students experiments Group and control Group

On the diagrams to can be saw that student learning achievement on high criteria as much as 12 students in experiment 1 and 13 students in experiment 2, whereas in group controls only 7 students. on the criteria being the large number of experimental group students by as much as 16 students in experiment 1, 11 students in experiment 2, and a control group by as much as 10 students. On the low criteria on control group more than 7 students group experiments. Based on the results of data analysis, retrieved the average test scores of students who obtained a model of learning SFE $X1 = 81,33$ and the average test score students use direct learning model $X2 = 6.84$. From the calculation by using the techniques of t-test, $t_{obs} = 3,175$ and obtained with $\alpha = 0.05$ and critical area = 24 $t_{table} = 2,064$ obtained then it can be inferred that the mathematics studied achievement students who acquire the learning model is better than the SFE Achievement learning math students that obtain the conventional learning model.

As described by Sudjana (2009:23) achievements learning is the ability-an ability possessed by students after he accepted their learning experience. In line with the results of research conducted by Andriana (2012) that the application of the model of learning SFE achievements learning student can be increased. Research conducted by Kusmiati (2010) States that Reciprocal Teaching method, SFE and conventional effect on student learning achievement, accomplishment of learning students are taught using the method of reciprocal teaching and SFE better than is taught using conventional methods, but the method of reciprocal teaching and learning mathematics achievement is SFE the same.

Students Participation Data

The following is the data obtained from the observation result participation students on group learning model using SFEs on experimental group,

Table 3. Data of Participation Experiments Group

Criteria	Average (%)	Sum
Good	$X > 85$	6
Good Enough	$80 \leq X \leq 85$	14
Less Good	$X < 80$	10

From Table 3 above shows that students with good criteria may be as much as 6 students, are good enough there are 14 students, and less good as much as 10 students. Participation of students in learning using learning SFE the lowest percentage was obtained 75%, 97% and the highest average 83%. The criteria may be average with 83% of these showed that students in the group of experiments may be group ified as either.

Based on the results of the analysis of the obtained t-obs (4.772) greater than ttable (1.699) with a significant level of 5% and 29 degrees of freedom. Then it can be made the conclusion that the participation of students in following the process of learning using learning models SFE on the material of the rectangular retrieved the lowest percentage was 75%. Learning models means SFE to the participation of the students, as expressed by Suprijono (2009:129) model of learning SFE making students can create a concept map or chart to improve creativity of students, active students, and student achievement.

4. Conclusion

Peer teaching is very effective for enhancing the achievement of learning math. The student can be a facilitator of the other students, where students will be interacting with each other. Interactions will also provide a pleasant atmosphere in the study. Therefore, teachers need to use a model of learning which varies according to the material to be taught. This research was conducted only for one month with a large number of respondents as many as 60 students. It is recommended for the next researcher can perform similar research with large scale and relatively longer time.

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ELEMENTARY SCHOOL TEACHER EDUCATION PROGRAM OF UNNES STUDENTS' SKILL IN IMPLEMENTING BRUNER LEARNING THEORY

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Abstract

Understanding the learning theory from the psychology experts are very important to achieve a success mathematic learning psychology in class. By understanding the learning theory that already exist, the teacher candidate students hopefully can design and doing the learning process in their class better. The fact in Elementary School Teacher Education Program (PGSD) of UNNES gathered from the earlier observation shows that the developing skill of mathematic learning is till low. It can be seen from the developed learning were made from their own thoughts, not referring to a learning theory, so the developed learning are not right. 55% of the students can not implement the learning theory that they have designed yet. The aim of this research is to know how to grow the ability of Elementary School Teacher Education Program students of UNNES in applying the Bruner learning theory in mathematic subject in elementary school. The type of this research is qualitative research. The data source samples in this research are: a mathematic lecturer and a group that consists of 5 students who took the numbers learning and data management subjects, field note is a note by the observer along the learning process, happened, the document data in the form of lesson plan, and students' score. Data gathering was done by using documentation technique and field note. The data analysis technique following Miles and Huberman was done interactively through data reduction process, data display, and verification. Observation was done to see the mathematical relativity, learning motivation, self esteem, interaction and communication of the students. The result is there are 3 students that already master the implementation of Bruner learning material, while 2 students are in quite mastering category. The suggestion in teaching the students to develop the learning is the students need to be provided with learning theory.

Keywords: Bruner learning theory, students' skill

1. Introduction

Learning process that being practiced nowadays mostly in the form of one way lecturing. When attending lectures or hearing preaches, the students will hard to follow or catch the essence of the material, so the learning is just making some doubtful notes. This active lecturer and passive students learning process pattern has a low effectiveness and can not grow the active participation process in learning. It is against the UU Sisdiknas no 2 year 2003 which stated that what is meant by learning is an interaction between educator, student, and learning source in a certain place. So by describing every related aspect in the learning process, a student centered learning characteristic can be learned.

One of the mathematic learning characteristics nowadays is the deliverance is based on learning psychology. Understanding the learning theory from the psychology experts is very important in order to achieve a success mathematic learning in class. By understanding

the existed learning theory, the teacher is hoped to design and do a better learning process because they already have learning theories as their reference (Shadiq, 2011). The fact in Elementary School Teacher Education Program (PGSD) of UNNES gathered from the earlier observation shows that the developing skill of mathematic learning is till low. It can be seen from the developed learning were made from their own thoughts, not referring to a learning theory, so the developed learning are not right. 55% of the students can not implement the learning theory that they have designed yet. It can be seen when they implement the Bruner theory they just apply the phases, not including the theorems.

Student of Elementary School Teacher Education Program is the teacher candidates that have to be able to teach the students by implementing innovative approach with learning theory. Mathematic is one of subjects that being taught in elementary school. so the students who joined elementary school mathematic learning

development subject, number learning and data management in elementary school subject, and geometry learning in elementary school subject must be able to develop mathematic learning by implementing mathematic theory learning. One of the ways for the students to get the experience about developing mathematic learning is by training to develop the mathematic learning for elementary school by implementing learning theory from what have been taught by the lecturer.

Based on the background above, a fixation is needed in mathematic learning development subject through a research entitled: Growing the elementary school learning activity development skill through learning theory implementation to the students of Elementary School Teacher Education Program of UNNES. Learning theory is an activity of someone to change their behavior. All learning activities are always followed by a change that including prowess, skill and behavior, understanding and pride, character, interest, self adjustment, and so on. Those changes include cognitive, psychomotor, and affective change.

Bruner as one of the psychologist and a thinker has developed a learning theory that based on constructivism view and very related to cognitive learning theory. In the material deliverance, there are 3 important steps that have to be watched in implementing this theory, which are: (a) Enactive Phase: in this phase, the students learn by manipulating concrete things, (b) Iconic Phase: the knowledge mostly built from visual pictures to create new information, (c) Symbolic Phase: in this phase, knowledge are already built by using mathematic and language symbols.

The implementation of Bruner learning theory can be done by serving examples and the non examples from the concept that being taught, helping the students to see the relation between concepts, giving a question and let the students to look for the answer by themselves, giving spirit to the students to give their opinion based on their intuition. Besides developing cognitive development theory, Bruner stated theorems which related to mathematic learning. Those theorems are: (a) Construction theorem, (b) Notation Theorem, (c) Contrast and Variation Theorem, (d) Conectivity Theorem. Inside construction theorem stated that the best way for a student to learn something or a principle in mathematic is by constructing or conducting a representation from the concept. According to notation theorem the representation of a mathematic material will be easier to be understood by the students if the representation

used a proper notation that suited with the students' cognitive development level. According to contrast and variation theorem, a mathematic concept will be easier to be understood by the students if the concept is contrasted from the other concepts so the differences between those concepts become clear. In connectivity theorem stated that every concept, principle, and every skill in mathematic are related to another concepts, principles, and skills.

This research only studied Bruner's learning theory. It is meant to make a deeper learning theory and because of the time limit. This research was conducted by Dewi Lestari in Tadulako Creative Journal Vol 3 No 2 / year 2014 entitled Bruner theory increase to increase the student's study result in fold symmetry learning in 4th grade students of SDN 02 Makmur Jaya of North Manuju Residence which stated that the implementation of Bruner theory may increase the study result of the students in fold symmetry learning.

Beside that, a research conducted by Tutut Umi Wulansari in COPE Teacher Scientific Journal number 02/year XVI/November 2012 entitled The increase of mathematic study result by implementing Bruner theory towards 4th grade students in SDN Cepit in Pendowoharjo, Sewon, Bantul shows that the use of Bruner theory may increase the study result of the students.

Based on the background above, the researchers formulate that the common problem of the research is "How to grow the elementary school mathematic learning activity development skill in Elementary School Teacher Education Program students in UNNES?"

2. Method

This research revealed about the learning development by implementing mathematic learning theory in elementary school learning by the students of Elementary School Teacher Education Program of UNNES. This research is a qualitative research. The research was conducted in Elementary School Teacher Education Program of UNNES. The instrument in this research is the researcher. The data source samples in this research are: a mathematic lecturer and a group that consists of 5 students who took the numbers learning and data management subjects, field note is a note by the observer along the learning process, happened, the document data in the form of lesson plan, and students' score. Data gathering was done by using documentation technique and field note.

The data analysis technique following Miles and Huberman was done interactively through data reduction process, data display, and verification. The data validity test in this research is data credibility test that has been done by increasing the perseverance, the researcher did it more carefully, the researcher re check for the data credibility.

3. Results

a. Description of Lecturer's Activity

Description of lecturer's activity in growing the students' skill in developing mathematic learning activity in elementary school by implementing learning theory towards the students of Elementary School Teacher Education Program of UNNES is shown below.

1) Planning Phase

In planning phase the researcher with the team designing learning device including lesson plan, observation sheet, and field note.

2) Execution Phase

The lecturer asked the students to represent the paper that they have made before the meeting. Next the lecturer will strengthen it. From the presentations, it can be seen that Bruner theory implementation in elementary school mathematic is not being fully understood. In every material, the serving is not vary and the chosen material is very easy and not challenging, not giving a chance for the students to construct their knowledge. To fix this problem, at the end of the meeting the students are given a task about develop round number learning for calculation, subtraction, multiplication, and division of positive and negative number by implementing Bruner's theory. In the next meeting, the lecturer asked the students to represent the given task and gave a feedback.

3) Scoring Phase

In the end of the activity, the lecturer gave a final test.

b. Description of Students' Activity

Description of students' activities in developing elementary school mathematic learning activity by implementing learning theory toward the students of Elementary School Teacher Education Program of UNNES is shown below:

1) The result of students' work in developing the learning by implementing Bruner theory as below.

a) Material: Calculation of Round Number with Positive and Negative Mark.

(1) Enactive Phase

The teacher prepared red and blue colored cards. To find the result of $5 + (-3)$ they use red cards (to state positive numbers) and blue cards (to state negative numbers). The students were asked to pick 5 red cards and 3 blue cards. Those cards were paired, and the result is there are 2 red cards that do not have a pair. So $5 + (-3) = 2$.

(2) Iconic Phase

In this phase, to explain $5 + (-3)$, they used different cards as shown below.



The students were asked to pair the red cards with the blue cards as shown below.



From the picture above, it can be seen that there are two red cards that do not have a pair, so $5 + (-3) = 2$

(3) Symbolic Phase

The teacher wrote the problem and then explained the relation between the problem with the paired cards. $5 + (-3) = 2$

b) Material: The Subtraction of Round Number with Positive and Negative Mark Example: $5 - (-3)$

(1) Enactive Phase

In this phase, the students were involved directly in manipulating the objects by using concrete things.

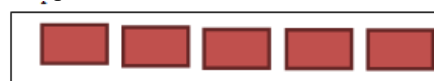
$5 - (-3)$ being thought as 5 red cards and 3 blue cards. Step 1: pick 5 red cards. Subtracted by 3 means pick 3 blue cards, because there is no blue cards available so 3 blue cards and 3 red cards must be taken (the value of those 3 pairs are 0) next pick 3 blue cards so the result is 8 red cards and we can conclude that $5 - (-3) = 8$.

(2) Iconic Phase

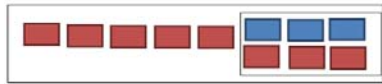
In this phase the activity was done by using pictures.

Example: $5 - (-3)$

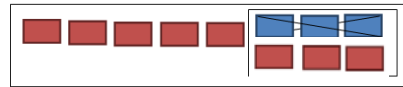
Step 1: Draw 5 red cards



Step 2: Add 3 pair of blue cards and red cards as below.



Step 3: Cross 3 blue cards



The rest are 8 red cards and the value is +8, so $5 - (-3) = 8$

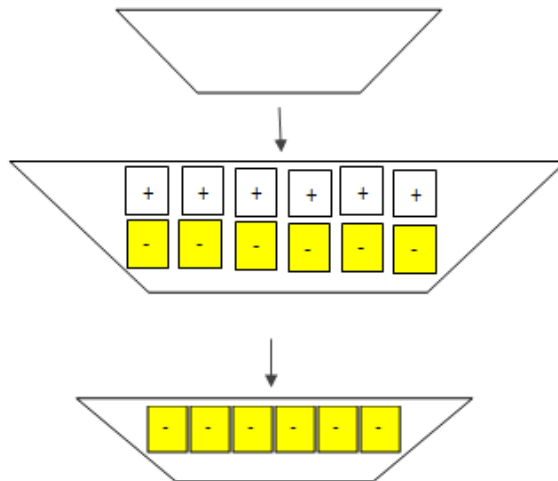
(3) Symbolic Phase

In this phase, the students can explain the mental shadow in the form of language and symbol. $5 - (-3) = 8$ or $5 - (-3) = 5 + 3 = 8$

c) Material: The Multiplication of Round Numbers with Positive and Negative According to Bruner's Learning Theory

(1) Enactive Phase

For this phase, a container and cards with positive and negative mark are needed. To do the multiplication 2 round numbers $A \times B$ there must be deal like these:



The container is empty in the beginning

To spend 3 positive cards twice from the container, the condition must be changed by inserting 6 positive and 6 negative cards that show a value of 0.

After spending 3 positive cards twice then the amount of cards left in the container are 6 negative cards.

So $(-2) \times (+3) = -6$

(2) Iconic Phase

In the enactive phase above, the activity is inserting/moving the cards from/to the container. The enactive phase is just the same with the enactive phase but by using pictures. The iconic phase pictures

A stated the number of **inserting** activity or **spend** the cards from or to the container.

- If **A** is positive, the **inserting** or adding the cards to the container is **A** times.
- If **A** is negative, the **spending** or subtracting the cards from the container are **A** times.

B is the amount of the cards that have been moved (inserted/ spent)

- If **B** is positive, the amount of **positive cards** that have been moved (inserted or spent)
- If **B** is negative, the amount of **negative cards** that have been moved (inserted or spent)

The last cards left in the container are the result of the multiplication.

Example: $(-2) \times (+3) =$

$(-2) \times (+3)$ means: to times of spending 3 positive cards from the container.

It can be seen like this:

for $(-2) \times (-3)$ is the same with the pictures above.

(3) Symbolic Phase

In this phase, the students are already know that negative numbers have a (-) symbol while positive numbers have (+) symbol. From doing some multiplication, we got 2

same value round numbers that being multiplied (positive x positive or negative x negative) have a positive result while a positive round numbers that multiplied with negative round numbers or vice versa will resulted a negative numbers.

d) Material: dividing positive and negative numbers

First, we have to make a deal:

The required tools: a positive and negative cards and containers

A : B, if **A** is positive it will be stated with positive card in positive container, **A** negative will be stated with negative card in positive container.

If **B** is negative, it will be put in the negative container, if **B** is positive then we will use positive container.

The result is if the cards and the container is in different color, the result is negative. When the cards and the container is in the same color means the result is positive.

Example: $6 : -2$

(1) Enactive Phase

Step 1: Prepare 6 red cards (positive) in red container (positive).

Step 2: Prepare 2 blue boxes (negative)

Step 3: 6 cards from step are divided equally in the 2 blue boxes so there will be 3 red cards (positive) in each blue box (negative)

The cards and the container is in different color which means the result is negative, so $6 : (-2) = (-3)$

(2) Iconic Phase

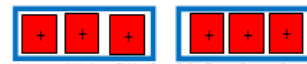
Step 1: Draw 6 red cards in red container



Step 2: Prepare 2 blue boxes



Step 3: divide 6 positive cards into those 2 boxes



Each box will be filled with 3 red cards, so the result is $6 : -2 = -3$

(3) Symbolic Phase

$6 : (-2) = x$ thought as $x (-2) = 6$

c. Students' Study Result

From the learning activity that done by the lecturer, it can be seen that the students' study result in developing learning activity by implementing learning theory are as follow: the students' study result increased from there is no students in "not quite mastering" category. There are 3 students in "mastering" category and 2 students in "quite mastering" category in learning development by implementing Bruner's theory.

4. Discussion

From the activity done by the lecturer, it can be seen that there is an effort to prepare the students' learning preparation and increasing the students' learning motivation by doing things like: giving a challenging tasks that will make the students look, study and decide; giving a chance for the students to be actively involved; growing a close relation between students and lecturer based on the trust; giving a good and detail feedback both in indoor or outdoor tasks. It is in accordance with the constructivism learning theory of Jean Piaget (in Dahar, 2011) which stated that knowledge is built in the thought of the children by assimilation and accommodation process according to their schemata.

The constructing process, as explained by Jean Piaget is as follows:

- **Schemata.** A group of concepts that being used when interacting with the environment called as schemata. Through the experience in children's cognitive structure a scheme was built. A schemata perfection process is done

through assimilation and accommodation process.

- **Assimilation.** Assimilation is a cognitive process where someone integrating their perception, concept or new experience into a scheme or pattern in their mind.
- **Accommodation.** In facing a stimulation or new experience, a person cannot assimilate the new experience with their schemata. Accommodation happened to create a suitable new scheme for the new stimulation or modify the existed scheme so it can suit the stimulation.
- **Balance.** Equilibration is a balance between assimilation and accommodation while disequilibrium is a state where there is no balance between assimilation and accommodation, equilibration may make someone to combine the outside experience with their inside structure.

5. Conclusion and Suggestion

The conclusion of the activity conducted by the lecturer in order to grow the students' skill in learning development by implementing learning theory toward elementary school mathematical learning; the activity of the students in developing learning activity by implementing Bruner's learning theory; the students' study result in implementing learning theory is good, so they are in "mastering" and "quite mastering" category. The suggestion is the students need to

be provided with learning theory in developing the learning activity.

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THE DEVELOPMENT OF GOOD QUALITY EDUCATION AND EVENLY SPREAD LEARNING OPPORTUNITIES AS ONE OF THE SUSTAINABLE DEVELOPMENT GOALS (SDGs) IN INDONESIA

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Abstract

Sustainable Development Goals (SDGs) is one of the main issues in the discussion of world development joint by the members of United Nations (UN) in the city of Rio De *Je'nairo to replace* Millennium Development Goals (MDGs). In Sustainable Development Goals (SDGs), there are four goals; the fourth goal is to ensure the education quality which is fair and inclusive and to increase long-life education opportunities for all. This study is aimed at describing the essentials of Sustainable Development Goals (SDGs) program, especially rights related to education as the basic right of every citizen in Indonesia as it is written in the basic laws (UUD'1945). Moreover, this study is also aimed at describing some strategies to reach the Sustainable Development Goals (SDGs) in developing good quality of education and evenly spread learning opportunities. The method used in this study was descriptive method. The data showed that the achievement of Indonesian national educational development is improved year after year through the government policy made in case of education sector.

Keywords: Sustainable Development Goals (SDGs), education development, learning opportunities

1. Introduction

Sustainable development can be achieved through education, because education is media for transforming perception, attitude and behavior of the human (Pusat Penelitian Kebijakan Badan Penelitian dan Pengembangan Kementerian Pendidikan Nasional, 2010).

United Nations through education for sustainable development goals (ESDGs) in 2005-2014 assumed that education has a very important role in achieving sustainable development (Report Happenings, 2016).

The millennium program has been done and ended in 2015. New development era has been arranged, to follow up the post development of 2015's, which is *Sustainable Development Goals* (SDGs). Several discussions done to accommodate discussion on sustainable development. The development accommodating to several principles which goes detail to participation, equality and attempts to enforce global capacity and partnership (United Nations, 2014).

UNESCO also promotes education policies and practice can be used to support nations facing global challenges trough education for sustainable development. UNESCO tries to ensure that all students gain knowledge, skill, attitude and values needed for sustainable future (UNESCO, 2012).

In Indonesia, education development is based on the national law Number 17, 2007 about long term development plan (RPJPN) from 2005—2025. In the first period, the long term national development of education was focused on building capacity of the school as the education administrator in enlarging service and increase the quality of the way to conduct learning process. In the second period, the government support to enforce the services so, education can be gotten and felt by all society. In the second period, today, education development is planned as an education step to prepare human resources having regional competitiveness (Undang Nomor 17 Tahun 2007 tentang Rencana Pembangunan Jangka Panjang Nasional (RPJPN) Tahun 2005—2025).

2. Method

The method used in this research was a descriptive method. By using this method, the writer describes the education development which has good quality and evenly spread learning opportunities as one of Sustainable Development Goals (SDGs) in Indonesia. The data were collected by conducting library research through secondary data collection published by The Indonesian Statistics, The Ministry of National Development Plan &

BAPPENAS and other relevant sources of publication.

3. Result and Discussion

Sustainable development means many things for many people. Rio+20 officially define sustainable development into three dimensions must be achieved at once such as economy, social and environment (Cléménçon, 2012).

Sustainable development can be said as the parallelization of two separated purposes and processes that can be assumed as equality: sustainable development = development + sustainability (Lele, 1991 in journal Sharpley, 2010).

(Moldan & Dahl, 2007) express the understanding that sustainable development can be defined as a development that is able to make the development itself become unlimited.

Study claimed that the concept of the sustainable development is based on three important things such as: satisfying people's need, ensure social justice and respect to the environment limit (Holden, Linnerud, & Banister, 2016).

The term of SDGs has become the topic of global development for the first time proposed by the government of Columbia, Peru, Guatemala and United Emirates of Arab before the Rio+20 conference in 2012. The conference of the UN on Sustainable Development in Rio de Janeiro on June became the important key for the initiative agreement of sustainable development globally in the future. The result of High Level Conference is the launching of *Sustainable Development Goals* (SDGs) that will guide the international sustainable development, as the important contribution to continue the *Millennium Development Goals* (MDGs) which ended in 2015 (Lingán, Cornforth, Pollard, & Forum, 2012).

In Indonesia, the national long term development plan in 2005-2025 is based on the national law Number 17, 2007 about actualizing Indonesia to move forward, independent, and equitable. Natural resources and environment must be proportionally produced to ensure the sustainability of national development (UU Nomor 17 tahun 2007 tentang Rencana Pembangunan Jangka Panjang Nasional Tahun 2005-2025).

In Indonesia, MDGs has given big positive changes. Although there were several targets still needs hard work to achieve it. However, there were many targets showed the significant progress some even had been achieved. The government had succeeded to decrease the

imbalance towards gender in secondary education. One of the examples was significant decrease in the ration indicator of minimum participation rate between women and men in Senior High School joining Paket C from 93,67 percent in 1993 became 101,40 percent in 2011 (BAPPENAS, 2012).

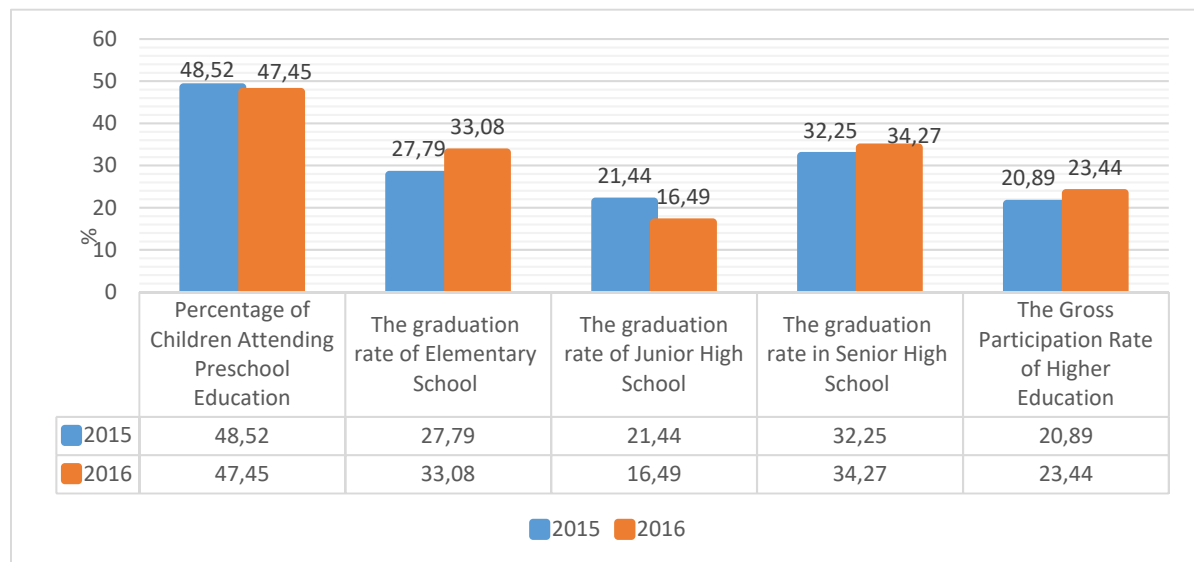
SDGs is expected one of the development agenda that can solve what have been decided before to replace MDGs and becomes agenda which is able to face previous and new challenges which is continuously increased. SDGs is expected to be a transformation agenda reshaping global development that is beneficial for the next generation. Based on the data from the Indonesian Statistics (Badan Pusat Statistik, 2016).

The achievement of the education on *Sustainable Development Goals* (SDGs) in 2016 in Indonesia can be seen in picture 3 with indicators such Percentage of Children Attending Preschool Education in 2016 was 47,45% It was decrease 1,07% compared to the previous year which is 2015. While for the graduation rate of Elementary School was increased in 2016 namely 33,08%, it was increased 5,29% from the previous year. For the graduation rate of Junior High School in 2016 was 16,49%, it was decrease as much as 4,95% from the previous year. The graduation rate in Senior High School was 34,27% in 2016. It was increased as much as 2,02% from the previous year. The last indicator was that the Gross Participation Rate of Higher Education in 2016 was 23,44%, it was increased as much as 2,55% from the previous year. The achievement in each indicator of the educational development goal of SDGs was not as it was expected. Although a few indicators were increased, the target was not as expected. Meanwhile, the SDGs' achievement, especially in education, is expected to be increased in the following years.

Chapter 1 Verse (1) of National Laws Number. 20, 2003, defined education as conscious and planned attempts to actualize learning condition and learning process so the learners can actively develop self potency to have spiritual power, self control, personality, intelligence, characters, and skills needed to be accepted as citizen and society. (Undang-Undang Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional) as has been addressed in national laws Number 20, 2003 about National Education System that well spread access of education and development of education will make Indonesian society have life skills so can promote holistic human development and civil and modern society and conscious with the

values of Pancasila. In the period of 2000—2015, there have been several initiation and breakthrough done in educational development trough MDGs. There are many monumental achievements such as; the implementation of National Laws about Teacher and Lecturer, National Standard of Education, Teacher Certification, and the allocation of teacher

allowance. However, there are still many weaknesses or unsatisfying results from the efforts and attempt done. The strategic plan of *Sustainable Development Goals* (SDGs) is expected to be a new breakthrough especially in educational development, so that positive changes can be brought, improved and increased for better people and environment.



Adopted from: Central Bureau of Statistic (CBS), 2016

Figure 3. Educational development achievement of *Sustainable Development Goals* (SDGs) in 2015-2016 in Indonesia

The juridical foundation of strategic plan in *Sustainable Development Goals* (SDGs) in education as the actualization of the implementation of regulations and national laws involve:

- Basic Laws of 1945 Chapter 31, Verse 17, Chapter 34.
- National Laws number 20, 2003 about National Education System.
- National Laws number 25, 2004 about System of National Development Plan
- Government Regulation Number 19, 2005 about National Standard of Education (SNP).
- Strategic Plan of the Ministry of National Education in 2010-2014.
- National Laws number 17, 2007 about National Long Term Development Plan 2005—2025.

Strategies done to achieve SDGs in developing education quality and evenly spread learning opportunities (Lampiran Peraturan Menteri Pendidikan dan Kebudayaan Nomor 22 tahun 2015 tentang Rencana Strategis

Kementerian Pendidikan dan Kebudayaan Tahun 2015-2019) are as following:

- Provide good quality service for Early Childhood Education
There are several challenges such as, a) increase access of Early Childhood Education especially for poor people; b) training; c) extend the accomplishment of service standards in Early Childhood Education; d) increase coordination among sectors and empower the public sector for holistic and integrated Early Childhood Education, improve the teacher's competence, assisting teachers and the caretakers of Early Childhood Education through education and
- Accomplish mandatory education for 12 years with good quality.
 - Giving rights of good quality of Primary Education Services by; a) providing financial aid to all society through Operational School Aid and providing Smart Indonesian Card (KIP) to all poor society; b) providing special affirmation to all students in most outer, neglected

- and foremost area and students with special needs.
- b. Increasing access of middle education with good quality, by; a) providing access of middle education in every district; b) providing financial aid of education to all society through Operational School Aid, and Providing Indonesian Smart Card to all poor society; c) providing special affirm to all students from most outer, neglected and foremost area and students with special needs; d) to make people realize about how important the middle education is; e) increasing people's role/public sector in providing middle education.
 - c. Improving the relevancies of vocational education which doesn't meet workplace criteria by; a) synchronizing the availability of Departments in Vocational Education with the competencies and skills needed in workplace; b) developing curriculum fitting the workplace need based on *KKNI* or The Indonesian National Criteria of Qualification
3. Improve the Learning Quality
 - a. Empower the quality assurance of education service.
 - b. Empower the curriculum development and its implementation by; a) supervise dan evaluate the curriculum implementation tightly, comprehensively, and sustainably; b) developing the teacher's competences about best learning practices in the school; c) enhance cooperation among government, teachers, principals, supervisors, and society to watch over the curriculum implementation.
 4. Empower educational assessment system by; a) improving teachers' competences in assessment at school b) strengthen the credibility of national examination system and using national examination to watch over the quality of education; c) strengthen credible and independent educational institution on assessment.
 5. Improve teacher's management, teacher education, and the reform of Educational Institution of Teacher Education (LPTK).
 6. Improving professional skill and strengthening adult people education/society education by;
Providing literacy education; b) conducting accreditation process of course and training institution; c) synchronize the development of course and training institution with the needs in workplace.
 7. Spread evenly effort of removing illiterate people to Indonesian Success, the literacy achievement rate needs improving especially students in most outer, neglected and foremost area.
 8. Improving family education so that the parenting education can be spread larger area until the rural area. Another challenge is to enlarge the educational scope not only in improving knowledge, but also good practice introduction.
 9. Balancing and harmonizing the solution of Indonesian Language and Local language; Improving reading culture and the enlarging Indonesian Language use as the mother tongue consistently as the official language in education and government organization in line with the spirit to keep and to protect Local Literature and National Language Heritage.
 10. Strengthen the students' character and Nation's prestige/dignity; the cultures in Indonesia must be developed to improve life quality, strengthen national character and dignity, strengthen the national unity, increase understanding about historical values and knowledge about nation, and increase the prosperity of society; empower society to oversee the law upholding; providing training and building the proper use of Indonesian Language; Increasing research, assessment and validity determination of communication and information.
 11. Increase students appreciation to Art, Cultural Work Creativity and Conserve Cultural Heritage; challenges faced by the Ministry of Education and Culture are; providing facilities of Artwork and Cultural Work Actualization; encourage the growth of the creativity and the productivity of cultural creator and the affection of using National product; increasing the cultural resources capacity for protection, development and the utilization of cultural heritage; increase the potency and the productivity of the culture for the social prosperity; promoting art work and cultural work in international level.
 12. Increasing the promotion, diplomacy, and cultural exchange; future challenges faced by the Ministry of Education and Culture are increasing the interlocal cultural promotion through the establishment of national culture house as promoting and diplomacy facility in national and international level and

develop the cultural work creativity and cultural exchange as international cultural and diplomacy facility.

13. Optimizing the utilization of educational budget which is still ineffective and inefficient. Challenges faced by the Ministry of Education and Culture are; reviewing regulations of budget transfer use to increase the quality of education; supervising and evaluating budget use of education by local government.

Various strategies have been developed and planned that are expected to improve the development of quality education and learning opportunities equally for all Indonesian people. Whatever the circumstances, the Government has shown a serious effort in realizing the development of education as one of the SDGs. These efforts have shown a comprehensive step in improving educational development, but its implementation is not yet optimal and uneven across Indonesia.

4. Discussion

Discussion The development of good quality education and evenly spread learning opportunities as Sustainable Development Goals (SDGs) has been discussed in several previous studies such as done by (Sulistiyastuti, 2015) with the result of the study showed that Indonesian grade for APS was well achieved, the APS was above 90 %. The achievement on literacy was also above 90 %, however, in case of the learning length, the achievement of MDGs still needs more struggle. Study done by (Lisbet, 2013) showed that Indonesia has reached some goals of MDGs. However, there are still some other goals needing hard work from the government of Indonesia.

5. Conclusion and Suggestion

The achievement of new Sustainable Development Goals (SDGs) entering development era replacing Millennium Development Goals (MDGs) had ended in 2015 had not been as it was expected. It is because there are still educational improvement because there are many things must be improved. Strategies planned by the government to increase the achievement of SDGs which were expected can compete the other countries' development globally. Some strategies planned before should be implemented step by step, continually and needs collaboration between government of the nation and local government. The achievement must also be evaluated periodically so the good

quality education and evenly spread learning opportunities can be provided in all areas around Indonesia.

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“INNOVATIVE EDUCATION; THE UPHOLDING PILLAR OF LIFE QUALITY FOR INDIVIDUALS AND COMMUNITY: CASE STUDY OF SMK TEMON, KULONPOROGO DISTRICT, INDONESIA.”

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Abstract

The purpose of this research was to ensure how far the school is on the promotion and implementation of innovative education with tangible facts, prove whether there is change in life quality and wellbeing among individuals and society in general, resulted from innovative activities. Research was conducted from 26th January until 24th March 2017 at Muhammadiyah Vocational Secondary School (SMK Temon Kulonporogo). Qualitative research was adapted with case study strategy for the research scope. A semi-structured interview, documentation and observation with factual notes were used as data collection tools. Before using the interview form, it was tested at Imogiri Vocational Secondary school (SMK Imogiri/Bantul district) for validity and reliability purpose. Semi- structured interview form was used to get information from school members, staff, student, teacher, and parent, about innovative activities triggering positive change in the school. Triangulation counted a lot. Content analysis and descriptive analysis techniques were used for all the data were collected. Based on the interview held and findings obtained from observation, there are some tangible facts that Muhammadiyah vocational secondary school (SMK Temon) has been reaching some achievements in terms of innovative education because everything said in the interview has its evidence. Comparing to the situation before 2014, the school members have been feeling improvement in terms of life quality. There are many indicators, at the school, that showed the relationship between innovative education and life quality of students, teachers, and the community in general. However, there is still a long way to go for satisfaction.

Keywords: Innovation, innovative activities, life quality, SMK, and wellbeing

1. Introduction

Background

Innovation is an idea, practice, or object perceived as new by an individual or other unit of adoption. Innovative activities are all the activities with a scientific, technological, organizational, financial and commercial character and which update or are oriented to lead to the implementation of innovations. Some innovative activities contain in them novelty, while others are only auxiliary activities necessary to implement innovations.

To improve their activity, people need change. The factors triggering change are internal and external (Bessant & Tidd, 2007). At the same time, three perspectives can be distinguished regarding the need for innovation in education (Bush & Bell, 2005): technological, political and cultural, pillars of progress by innovation. Innovation in the educational system is the factor triggering innovation in the economic and business environment, the human

resource being able to foresee the new trends and adapt to them.

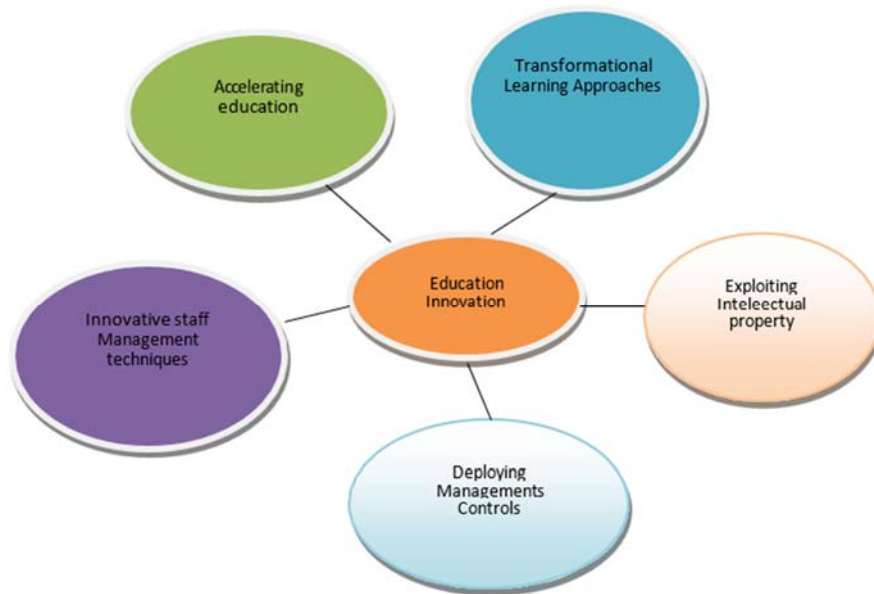
Specialists (E.g: Purdue University) consider that innovation in education is closely related to social innovation. Social innovation has as its sphere of action the domains: education, administration, health, economy, and aims to improve public awareness regarding the innovation meant for individual, social and economic development.

According to Nina, 2016, Innovative learning is learning that stimulates innovative changes in a corresponding culture and social environment and acts as an active reaction to the problem situations, which appear in front of each single person and the society in general. Innovative learning can be defined as: 1) a specific type of mastery the knowledge, alternative to the traditional normative learning; 2) a process that provides personality development in teacher and students through democratization of the teacher's position and inclusion of everybody in the cooperative

creative and productive activity; 3) a change in the nature of educational cooperation, which creates high level of readiness for a certain future and increases the level of intellectual-communicative activity development and creativity; 4) a specific type of mastering the knowledge, which implies the development of

students' skills for cooperative actions in new situations.

According to Spring Singapore; handbook for education innovators (2015), innovative education is characterized by the following concepts:



The fact is that given the challenges we face, education doesn't need to be reformed it needs to be transformed, Sir Ken Robinson. Quality of life is defined as the wellbeing of individuals and societies. There is an increasing emphasis on the importance of quality of life and wellbeing. Jordan suggests some of the major factors that need to be taken into consideration when measuring quality of life in his 2010 paper, 'The Good Society Framework': Relationships; the quality of our social, family and interpersonal relationships is the single most important factor in measuring quality of life or wellbeing, Economy; this refers to people's degree of economic spending power and the extent that jobs develop and reward individuals, Environment and infrastructure; this is about how pleasant, effective and efficient our environments are, Peace and Security; this refers to levels of crime and if people feel safe in their homes and public spaces and whether or not society is affected by war or terrorism, Culture and leisure; this is about identifying if there is a rich and rewarding culture and opportunities to participate in leisure activities, Spirituality; the choice to practice which religion you choose, access to spiritual and philosophical teachings, Education; this places the importance on enriching educational opportunities the enable

people to function effectively in society, Governance; so whether there is democracy, fairness and freedom of expression.

According to the definition of quality of life (QL) presented by World Health Organization WHO (World Health Organization Quality of Life Group, 1998), QoL is defined as individuals perceptions of their position in life in the context of culture and value system in which they live and in relation to their goals, standards, and concerns (p. 1570). Furthermore, quality of life is a comprehensive evaluation of the actual conditions of the one's life. Primary, it is a subjective perception of well-being, which includes physical, psychological and spiritual dimensions (Frytak, 2000; McDowell, 1996). It is satisfaction with ones living conditions (residential and work environment), with various other aspects of lifestyle, material well-being, social organization of society, cultural and spiritual life, relations with nearest people, with community and self-expression opportunities (Oleson, 1990).

Problem Formulation

This study was to provide with answers to the research questions. The questions formulated below are sourced from the theories stated in the first section.

1. Are there any activities in this school that can factually prove innovative education?
2. Is there improvement of life quality as results of innovative education at SMK Muhammadiyah 1 Temon?
3. Are innovative education and quality of life related at SMK Muhammadiyah 1 Temon?

Research Purpose

Based on the theories previously stated such as Nina, 2016, Bessant & Tidd, 2007, Frytak, 2000; McDowell, 1996), World Health Organization Quality of Life Group, 1998 and Oleson, 1990, this study aimed at ensuring how far the school is on the promotion and implementation of innovative education, with tangible facts, Proving whether there is change in life quality, among individuals and society in general, resulted from innovative activities at SMK Muhammadiyah 1 Temon, Providing with facts/ proofs that there is relationship between innovative education and wellbeing conditions (quality of life) at SMK Temon, Kulonporogo.

2. Method

A qualitative research method and techniques were adapted in this research. In this context, a case study strategy was benefited. Case study is one of the qualitative strategies widely used in qualitative researches. More than one data collection methods can be used in case studies to achieve data variety (triangulation); these are interview, participant observation, and documentation analysis techniques (Yildirim & Simsek, 2011). Semi- structured interview, observation, and document analysis techniques were used to ensure the variety in the acquisition of data. Hence, improvement of validity and reliability of qualitative section of the research was aimed by using different data resources and different data analysis methods. All the interviews were recorded and all observed features were penned. The participants in this research were staff, teacher, student, and parent who has a student at the same school. The research was conducted from 26th January to 24th March 2017.

3. Findings and Discussion

Three problems were determined in the scope of this section of the research: "Are there any activities in this school that can factually prove innovative education?, Is there improvement of life quality as results of innovative education at SMK Muhammadiyah 1 Temon?, Are innovative education and quality of life related at SMK Muhammadiyah 1 Temon?"

. The findings for the questions were analyzed using "content and descriptive analysis".

The model of content analysis used in this study was explained in the book by Cohen L. et al., 2013 (Research Method in Education, Pp 483 - 487) whereby five stages were gone through: extract the interpretive comments that have been written on the data, sort data into key headings/ areas, list the topics within each key area/ heading and put frequencies in which items are mentioned, go through the list generated in the previous stage and put the issues into groups (avoiding category overlap), comment on the groups or results in previous stage and review they messages. The notes taken during the observation and documentation were descriptively analyzed.

Seven questions were directed to every member of the school about the innovation in terms of education and the quality of life in terms of economy, health, spirit, infrastructure, social relationship, and so forth.

Analysis (Content and Descriptive)

Stage I

Questions' main points

- 1) Technologically, scientifically, organizationally, financially innovative activities.
- 2) Internal and external factors triggering change.
- 3) Relationship of innovative education to social innovation in terms of education, administration, health, and economy.
- 4) Prove about shift from traditional to innovative way of teaching, cooperative, creative and productive activity, educational cooperation creating readiness for future, students' skill for adapting themselves in new situations.
- 5) Relationship among student, teacher, and staff.
- 6) Economic, infrastructural, spiritual, and educational situations after innovative education was started.
- 7) Satisfaction about school environment in terms of material, wellbeing, social organization, relationship with nearest people, and self expression.

Key points and Codes

- ✓ Working together with five industries (AXIO, Daihatsu, PT Cemko, Evercross, and Honda) EIP

- ✓ Muhammadiyah Organization for character education SOS
 - ✓ Garage and car wash generate money FA
 - ✓ Message from praying (preaching) LLC
 - ✓ School members are ambitious LLC
 - ✓ Competition with homologue schools ISMT
 - ✓ Confidence from surrounding society RNP
 - ✓ Some teachers engage interactive activities in class TLA
 - ✓ Some study tours to learn from more advanced schools AE
 - ✓ The schools has improved internal health care LLC
 - ✓ As results of cooperation with different technical companies, the school always gains financial support FA
 - ✓ Shift from expository to participatory way of teaching TLA
 - ✓ Preparing students for daily life ISMT
 - ✓ Using power point in teaching TLA
 - ✓ Broadening and enriching the library MW
 - ✓ Looking for sponsor to equip multimedia option (30 juta rupiah) MW
 - ✓ Students from multimedia option can make short movies and participate in competition EIP
 - ✓ Sometimes, teachers are send by school for technical internship AE
 - ✓ Students are prepared on how to behave in outside to school environment DMC
 - ✓ Student representative was taken to other schools for fetching skills on treating each other AE
 - ✓ For convincing teachers about new strategies for betterment of school, the staff prepared study tour to other schools ISMT
 - ✓ School members became extrovert/open to each other CSEO
 - ✓ Teachers salary was risen once within 2 years LLC
 - ✓ New standardized buildings MW
 - ✓ There is so called hotel room for visitors MW
 - ✓ Installation of projectors in few classes MW
 - ✓ There are fans in all classes MW
 - ✓ Collective prayer (dzuhur) LLC
 - ✓ Student have been trained to share spiritual skills with colleagues LLC
 - ✓ Share school activities with stakeholders in shape of photos RNP
 - ✓ The school is at the satisfactory level because of cooperation and partnership with international companies such as Honda and Axio LLC
 - ✓ Teachers are now punctual after positive sanction ISMT
 - ✓ Everybody in the school community is welcome to criticize and praise CSEO
- Stage II: Headings /Areas**
All the points that have been used fall into two big areas.

Innovation	Codes	Quality of Life (QoL)	Codes
Transformational Learning Approaches	TLA	Lifestyle & Life Condition	LLC
Exploiting Intellectual Property	EIP	Material Wellbeing	MW
Deploying management Controls	DMC	Social Organization of Society	SOS
Innovative Staff Management Techniques	ISMT	Relations with Nearest People	RNP
Accelerating Education	AE	Community and Self Expression Opportunities	CSEO
Financial Activities	FA		

Stages III and IV: Key Points and Frequencies

For each main area, the relevant data presented together, and tally marks (/) is placed

against the number of times the key point of either innovation or quality of life has been mentioned.

A. Innovation	Key Points
Transformational Learning Approaches (TLA) Frequencies: (///)	<ul style="list-style-type: none"> • Some teachers engage interactive activities in class • Shift from expository to participatory way of teaching • Using the power point in teaching
Exploiting Intellectual Property (EIP) Frequencies: (//)	<ul style="list-style-type: none"> • Working together with 5 industries. • Student from multimedia option can make short movies and participate in competition
Deploying Management Controls (DMC) Frequencies: (/)	<ul style="list-style-type: none"> • Students are prepared how to behave on outside of school environment
Innovative Staff Management Techniques (ISMT) Frequencies: (////)	<ul style="list-style-type: none"> • Competition with homologue schools • Preparing students for their life • For convincing teachers about new strategies for betterment of school, the staff prepare study tours to other schools • Teachers are now punctual after positive sanction
Accelerating Education (AE) Frequencies: (///)	<ul style="list-style-type: none"> • Some study tours to learn from more advanced schools • Sometimes, teacher are sent by school for technical internship • Students representative was taken to other schools for fetching skills on treating each other
Financial Activities (FA) Frequencies: (//)	<ul style="list-style-type: none"> • Garage and car wash generate money • As results of cooperation with different technical companies, the school always gains financial support.

B. Quality of Life	Points and Frequencies
Lifestyle & Life Condition (LLC) Frequencies: (////////)	<ul style="list-style-type: none"> • Message from praying (preaching) • School members are ambitious • The school has improved internal health care • Teachers salary was risen once within 2 years • Collective prayer • Student have been trained to share spiritual skills with colleagues • The school is at the satisfactory level because of cooperation and partnership with international companies

B. Quality of Life	Points and Frequencies
Material Wellbeing (MW) Frequencies: (/////)	<ul style="list-style-type: none"> • Broadening and enriching the library • Looking for sponsor to equip multimedia option • New standardized buildings • There is so called hotel room for visitors • Installation of projectors in few classes • There are fans in all classes
Social Organization of Society (SOS) Frequencies: (/)	<ul style="list-style-type: none"> • Muhammadiyah organization for character education
Relations with Nearest People (RNP) Frequencies: (/)	<ul style="list-style-type: none"> • Confidence from surrounding society • Share school activities with stakeholder in shape of photos
Community and Self Expression Opportunities (CSEO) Frequencies: (/)	<ul style="list-style-type: none"> • School members became extrovert/open to each other • Everybody in the school community is welcome to criticized and praise

Looking at the tables on stages III and IV, it was found that the first innovative activities are concerned with Innovative Staff Management Techniques with four frequencies (26.7%), the second were Transformational Learning Approaches and Accelerating Education with three frequencies each (40%), the third were Financial Activities and Exploiting Intellectual Property with two frequencies each (26.6%), and finally, Deploying Management Controls with one frequency (6.7%).

For quality of life, it was found that Lifestyle And Life Condition has seven frequencies (38.9%), Material Wellbeing has six frequencies (33.3%), Relationship with Nearest People and Community and Self Expression Opportunities have two frequencies each (22.2%), finally Social Organization of Society has one frequency (5.6%). (Stage V)

4. Conclusion

In nutshell, it can be concluded that there are innovative activities at SMK Muhammadiyah 1 Temon. The innovative activities at the school can be proven by transformational learning approaches that have been used and improved, exploration intellectual property through creating strong cooperation with technical companies, applying multimedia related skills to promote creativity, the school management techniques such as mobilizing all the teachers, staff in general, and even students to be

committed to accomplishing their daily tasks. All these innovative activities have been improved a day in a day out.

Innovative education and quality of life are completely and undoubtedly related. The signs of life condition or life style, at SMK Muhammadiyah 1 Temon, such as health, salary, and satisfaction of school members are the fruits or results of some innovative activities which are financial, educational, and managerial. Therefore, the quality of life cannot take place unless there are innovative activities.

The purpose of this research; ensuring the implementation and promotion of innovative education by SMK Muhammadiyah 1 Temon with tangible facts, proving whether there is changes in life quality of school member as result of innovation, proving whether there is relationship between innovation and quality of life, was met because there are tangible proofs even though the school is still going a long way to be fully satisfied.

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HIDDEN CURRICULUM IN SCIENCE LEARNING IN JUNIOR HIGH SCHOOL

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Abstract

There is no action without purpose. All that a person definitely has a purpose. So even at the time of learning. Someone willing to learn cause it has a purpose. Activities to achieve the goal can be written or not in the curriculum. The curriculum is not written often called hidden curriculum. Various studies have proven that there is indeed a hidden curriculum in every lesson. This paper was a descriptive explanatory about the hidden curriculum in science learning, especially in junior high school (SMP). Data were collected by observation, interviews and questionnaire. The observations were made by observing the behavior of students during recess, from Monday until Saturday. Interviews were conducted randomly to some students and some teachers. Data was collected by interview openly. Questionnaires administered twice to 182 students, in the first time at school and before the semester exams. The validity of the Data taken by triangulation, triangulation method, triangulation of researchers, and triangulation theory. The study was conducted at SMPN 17 Cirebon, class VII using an interactive model analysis. Competence number five (5) on science learning in junior high, raising awareness to participate in preserving, maintaining, and preserving the environment and natural resources. Based on the analysis concludes that the hidden curriculum on these competencies include: 1) train students to work together and worked together to preserve the environment, 2) teach students how to plant and care for plants that can grow and evolve, 3) teaches students how to process waste, as well as 4) cultivate students faith in God Almighty.

Keywords: curriculum, hidden, learning, sains, SMP

1. Introduction

One of the subjects were given at the level of secondary school (SMP) is IPA. This course can also be called a lesson science. Science subjects also have learning targets set out in the curriculum. IPA teaches students can compare the differences in the phenomenon, exploring the interrelationships among living things, interpret environmental changes, make conclusions from the data, formulate hypotheses, observe and classify, develop the habit of inquiry, and so on [1]. Therefore, studying the three is very useful for life.

Expected competencies include seven, namely: 1) increased confidence in the greatness of the Almighty God by the existence, nature beauty and order of creation; 2) develop an understanding of a wide variety of natural phenomena, concepts and principles of science that are useful and can be applied in everyday life; 3) develop curiosity, positive attitude, and awareness of the relationship interplay between science, environment, technology, and society; 4) conduct a scientific inquiry to cultivate the ability to think, behave and act in a scientific and communicate; 5) raise awareness to participate in preserving, maintaining, and preserving the

environment and natural resources; 6) increase awareness to appreciate nature and all its regularity as one of God's creation; and 7) improving the knowledge, concepts, and skills of science as a basis to continue their education to the next level.

Curriculum required to achieve the learning objectives. [2] that "the curriculum is a set of plans and arrangements regarding the objectives, content and learning materials as well as the manner used to guide the activities of the organization of learning activities to achieve specific educational objectives". [3] concerning the content of the curriculum standard states that the substance of science teaching in junior high school is an integrated learning. Learning science should be between the various aspects are associated with combining multiple subjects or materials science studies [4]. The pattern of integration can be done in several ways, among others, to do interdisciplinary and multidisciplinary.

One of the benefits of integrated science teaching is getting students to learn, answering his own questions that, practice the knowledge they have learned, as well as discovering the usefulness of the findings in everyday life [5]. On

the Curriculum 2013, the Basic Competency (KD) science subjects already incorporate the concept of physics, biology, chemistry and Earth and Space Sciences (IPBA). It is expected to form a knowledgeable students (have a body of knowledge), skilled scientific (scientific skills), skilled thinking (thinking skills) and think the strategy (strategy of thinking) [6].

Hidden curriculum is a curriculum that is not a part that should be studied or every aspect of the school, but not in the curriculum. Although not in the curriculum, these aspects is able to give effect to the changes in values, perception, and behavior of students [7]. According to [8], the hidden curriculum is the events that occurred and was not planned, but can be used by teachers to achieve the learning objectives. This curriculum can be formed out of the school environment, the atmosphere of the class, the pattern of teacher interaction with students in the classroom. Even more broadly on policy and management of the school as well as the behavior of all the components of the school in the interaction of vertical and horizontal [9] and [10].

According to Elizabeth Vallance in [11] the hidden curriculum has several functions, namely: (1) the inculcation of values (value investment students); (2) political socialization (political socialization of students); (3) training in obedience and docility (train obedience and submission), and (4) the perpetuation of traditional class structure (preservation of traditional class structure). Hidden curriculum in schools is an important thing in the form of the character formation of students, such as values, attitudes, beliefs, and rules [12]. Ref [13] states that the hidden curriculum is more effective than the curriculum itself. This is similar to the results of research [14] which states that the hidden curriculum have influence beyond the formal curriculum. Research [15] concluded that the hidden curriculum is capable of forming a child to be more concerned about the surrounding circumstances, can work together, and have nationalism. This means that educational success is not only determined by the written curriculum, but the curriculum is not written or hidden curriculum.

Ref [16] conducted a science lesson by using the Subak. Subak is an irrigation system and cropping pattern of rice in Bali. This integrated science learning makes the students also learn social studies, mathematics, law, and language. The hidden curriculum, students are expected to learn the local culture related characters in Bali. Ref [17] hidden curriculum development with the concept of environmentally friendly energy sources, namely

oil jelanta. This material is associated with learning physics. As a result, students not only have the knowledge, but also skills and concern for the environment. Ref [18] in his research on Lombok concluded that (1) the teachers still have a poor understanding both of the nature of science, (2) the teachers are very rarely apply the essence of science learning, (3) there is a mismatch of material lessons with the allocation of time, the orientation of aspects of cognition, the mental preparedness of students, and (4) teachers more dominant in discussion and lecture method than the method of inquiry in managing learning.

Ref [19] conducted a study design development to the core activities which include: collaborative investigation or experimentation, the presentation of the work, awards, and problem-solving exercises. The learning outcomes can enhance the role of students and opportunities for students to perform scientific work; and (2) enhance the problem solving, mastery of concepts, and develop the habit of thinking in addressing the problem. Ref [20] in his study mentions that integrated science teaching must integrate the various disciplines of natural sciences, because it takes a comprehensive teaching materials and meet the learning needs. Selection of the latest social issue and up to date may have an impact on increasing the curiosity and motivation to learn. Indicators developed learning of basic competence.

The results of the study [21] showed that the profile management model of science learning in junior high school in Yogyakarta is still partial, less humane, and individualized teaching. Research [22] mentions that matters is to be achieved in science, which make students knowledgeable and skilled excellence, work ethic, training doing research in accordance with the process or the scientific method, and learn to apply the knowledge of his best , disciplined, honest, and responsible. One of the things that can achieve this is, teachers must understand the concept of the nature of science.

Based on the above, it is necessary to do research related to the hidden curriculum contained in learning science or science in junior high, particularly on the achievement of competence number. 5, that is to raise awareness to participate in preserving, maintaining, and preserving the environment and natural resources.

2. Method

This study was a descriptive explanatory. This is because the data collected in the form of

words, pictures, and not the numbers [23]. Data were collected by using observation, interviews, and questionnaires [24]. The observations were made by observing the behavior of students during recess, from Monday to Saturday. Interviews were conducted randomly to some students and some teachers. Data was collected by interview openly. This is done in order to get a complete and valid data.

Questionnaires distributed to all eighth grade students numbering 182 children. The questionnaire contains indicators maintain, preserve, and conserve the environment and natural resources. Questionnaires given twice, namely at the first sign of school and before the semester exams. This questionnaire serves to determine the awareness of students, from before and after the learning science in an integrated manner. The indicators of the questionnaire, including: 1) to dispose of waste in place, 2) separating organic and inorganic waste, 3) reduce the use of plastic, 4) efficient use of water and electricity, 5) do not step on the grass, 6) do not pick flowers carelessly, as well as 7) taking

care of the plants that are around. The results of this questionnaire will be analyzed using descriptive analysis.

The validity of the data at this stage of research pursued by triangulation, triangulation method, triangulation of researchers, and triangulation theory. The study was conducted at SMPN 17 Cirebon class VIII. Analysis of data using an interactive model [25]. The study was conducted from August to November 2016.

3. Results

Here is the data obtained by questionnaire before eighth grade students receive an integrated science subjects and after getting these subjects. As for the learning method used is an integrated learning with some KD relating learned through a theme. This is expected to help students associate learning materials with everyday life. Through this method, students can immediately apply their knowledge in the environment.

Table 1. Questionary Before and After Integrated Learning Sains

Before		After								
Total	Student				Indicator	Student				Total
	Girl		Boy			Girl		Boy		
	Yes	No	Yes	No		Yes	No	Yes	No	
67	31	5	30	1	1	35	2	31	0	68
21	1	10	1	9	2	5	2	4	3	14
11	1	5	1	4	3	4	3	4	2	13
23	4	8	4	7	4	8	2	7	4	21
25	6	7	5	7	5	8	2	7	4	21
15	2	8	3	2	6	9	3	4	3	19
20	3	8	5	4	7	13	4	6	3	26
182	48	51	49	34		82	18	63	19	182

In this case, the teacher should be to map and classify SK and KD to be achieved. Teachers determine the theme and analyzes it to be applied to the basic competencies appropriate. Therefore, in the face several times, only one of the themes discussed. However, one theme can contain some KD.

Based on data in Table 1 it can be seen that there is an increase in the role of students in the preserve, maintain, and preserve the environment and natural resources that exist, especially in the school environment. At the time of learning, the teacher always gave the example of the negative impact of bad behavior. Teachers also often placed various images that expressed concern for the environment. For example, on the following plastic waste.



Figure 1. Infographics Plastic Waste (from Google)

Through these images, the teachers would like to invite students to maintain and preserve the environment by not littering. In addition, students are also invited to a little might produce plastic waste. This habit needs to be delivered and implanted to students early on. Given the current, almost in every activity always use plastic so that in the end these plastics into the trash and damage the environment.

Through information about plastic waste, the students became concerned and began to sort plastic and not plastic. Teachers introduce to the students about recycling goods. One item is a plastic recycling. Plastic waste is processed to be used as plastic pellets. After that, the plastic can be formed again as desired. In order to help students understand the plastic recycling, the

teacher gives an impression or a video about how to process plastic into plastic pellets. The explanation is expected to sensitize and motivate students to get used to sort plastic instead.

In addition, students are also expected to reduce the use of plastic. For example, to bring their own food place. The cleanliness of the food places certainly clearer and more secure so students could avoid the various diseases caused by dirty food. In this case, the teachers also teach students about healthy living. It is also associated with religious teachings about living a clean and healthy living. Therefore, subjects received the student is not simply a theory or knowledge, but can be applied directly in everyday life. The teacher also explained the usefulness of water for human life through the figure below.



Figure 2. Infographics Need of Water (from Google)

Teachers build students' awareness about the importance of preserving water. One of the teachers is by playing a video on rain water treatment. Through these movies can be known functions utilizing rainwater, among others to: 1) save on the use of groundwater, 2) hold 10 cubic meters of water during the rains, 3) reduce the burden of the river during heavy rains, 4) increase the amount of water that goes into land, 5) maintaining groundwater levels, 6) lowering the concentration of ground water pollution, 7) improve the quality of shallow groundwater, 8) reducing the rate of erosion and sedimentation, 9) reducing the dimensions of drainage network, 10) maintain equilibrium groundwater hydrology so that it can prevent sea water intrusion, 11) to prevent land subsidence, and 12) into water supply in the dry season. Things can be done by the students is to use water as necessary. The students are expected to start using water sparingly.

In addition, students also begin to get used to plant trees as absorbent and water reservoir.

This is done by asking some students to bring a tree and plant it in the yard or school garden. Students in one class were divided into five groups. Each group of six students. Each group is responsible for the trees planted. The shape of the responsibility it is to maintain, nurture, and maintain that the tree or plant life, grow, and thrive. Therefore, these plants need to be watered and fertilized. Each group shared the duties to watered and nurtured. The final assessment is done by measuring and observing of grow up and development of the plant. This activity is very beneficial for the students, both when at home and in the community.

Teachers also associate water with electric material. In this case, water for power generation, or commonly abbreviated with hydropower. The students were asked to view a presentation on the process water as electric power. Through this show is expected the students to better understand and care about the presence of water. In addition, students are also expected saving in the use of water and electricity. As it has been

known that this time, the use of plastic and electricity are already unavoidable. Virtually all around the students always have something to do with electricity. Nevertheless, the students begin to get used to downsize. This is because the need for water and electricity not only for today, but also for the future. One thing that is always delivered by the teacher is the link between all that exists in the world with the existence of God. Indirectly, the teacher would like to instill and strengthen the faith of the students.

Related to the motor fuel savings, the teacher displays a video on the use of motor vehicles in Indonesia. Impressions provides information on the number of vehicles is increasing. The road no longer able to accommodate the number of these vehicles. The program also displays the increasingly poor state of the earth and barren. This is because the contents of the earth that keeps explored and exploited without updating. Here is a picture taped to the class related to it.



Figure 3. Infographics Formulation of Oil and Gas (from Google)

Through these images, the students are expected to come to know and understand the meaning of keeping and frugality. Young people who would experience a shortage of oil and gas. The teacher asks the students to remember the type of fuel used by the general public. Most answered using a gas stove. Teacher displays a picture of a mother who was cooking by using a furnace. The furnace is made of bricks and using firewood. All students expressed have never seen. Teachers also gave the example of the oil burner. Ten years ago, students can still find oil-fired stove. But right now, the kerosene stove is no longer found. Oil stove has been replaced with a gas stove. Teachers try asking a question, "if the gas is not there, what would be used for cooking?"

Based on the interview can be concluded that students feel happy because it has a variety of experiences related to environmental preservation. Students feel they have experience in planting and caring for plants. Students also feel the benefits of cooperating alternately

watering and caring for plants. The students are taught to have a sense of responsibility through collective bargaining or mutual cooperation. No students feel dominant and mastering. All students feel equal and mutual help. Some students also began to familiarize themselves with the foot in order to reduce air and noise pollution as well as saving motor fuel, namely gasoline. The students go to and from school on foot. The distance from the school to the highway about 2 km. A long the way, students are family like mutual pleasantries and enjoy the ride.

Likewise, the results of interviews with teachers. The teachers were delighted because students no longer feel most able. The teachers assess that the cooperation between the students has a good impact on the formation of character.

4. Discussion

Based on the analysis concludes that the hidden curriculum on competence number 5 learning science: 1) to train students to work together and worked together to preserve the

environment, 2) teach students about responsibility in terms of planting and caring for plants that can grow and evolve, 3) teaches students to care for the environment in terms of process waste, as well as 4) foster the faith of the students to the Lord Almighty.

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INTERNET APPLICATIONS IN THE SCHOOLS

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Abstract

Recently, internet is essential tool in the school. This study aimed to describe how to apply the internet in schools, what impacts are expected in the application of the internet, and problems in its application. Data was collected by literature review and observation. The results of this study show that the internet can be applied on the basis of its use, the form of learning, the device that used, and the platform. The benefits of using the internet include improving high-level thinking, learning achievement, culture, and morality. Nevertheless, the use of internet is still experiencing obstacles, such as infrastructure, knowledge of teachers/students in using the internet, and negative impact on users. The suggestion that can be done is the challenge of integrating pedagogy, technology, content, morale, and multicultural.

Keywords: internet application, advantage, problem, and integrated.

1. Introduction

The Internet is becoming an important need for Indonesian society including the school community. When viewed from an active internet user, its usage has reached 51%, its growth 51% from 2016 to 2017, time spent accessing via PC 8 hours 44 minutes and almost 4 hours for mobile phone every day [1] and Internet users among adolescents aged 10-24 years reached 18.2% [2]. This phenomenon also affects the skills that must be possessed by teachers and students in the form of 21st century educational skills, namely digital skills of life style including in the use of the internet [3]. To achieve these skills, it is necessary to integrate the use of the Internet in school learning. Integrating *knowledge of technology, pedagogy*, and *content* is more effective than technology itself [4]. Kohler and Mirza incorporate technology in the concept of PCK (pedagogical content knowledge) into TPACK (technological pedagogical content knowledge) [5]. PCK is an integration concept by incorporating teaching skills with learning materials [6]. Currently, technology is incorporated into PCK so that the original three components become six, namely technological knowledge (*TK*), pedagogical knowledge (*PK*), content knowledge (*CK*), technological pedagogical knowledge (*TPK*), technological content knowledge (*TCK*), pedagogical content Knowledge (*PCK*), and technological pedagogical content knowledge (*TPACK*).

Based on the regulation of the Minister of Education and Culture No. 16 of 2007 that teachers should have "pedagogic competence" which one of them can use technology,

information and communication for learning purposes [7]. The use of "internet" in schools is heavily dependent on school policies. Specifically the policy will be implemented by the teacher. But schools must calculate the positive and negative impacts of using it. It is therefore important to know how the negative impact of using the "internet", in addition to its positive impact. The hope after knowing it can minimize the negative impact and optimize the positive impact, rather than avoid the use of the internet at school.

Focus on this study to answer the question how the form of internet applications in school? What are the specific problems teachers have for using the internet at school? How to solve the problem in the use of internet in school?

2. Method

The research method used is study literature with six stages [8], that is (a) prepare the article by collecting research articles google scholar indexed. (b) Identify relevant articles ie articles relating to the use of internet in schools, especially at the elementary to high school levels. (c) Structure a review based on (i) the use of the Internet in schools is the basis of the internet such as web, social media, mobile learning, (ii) problems of use are differentiated based on problems of infrastructure and teacher readiness, use process, and negative impact on students. (iii) As for problem solving techniques can be grouped into the problem of use. (d) Then the results of the structure are discussed for recommendations, (e) theoretical evaluation materials, and (f) discussions and inferences.

3. Results and Discussion

3.1 Research Internet applications in schools

In total, there are 43 research that have been selected for synthesis. The research method is qualitative (n = 15), quantitative (n = 11), survey (n = 8), literature study (n = 5), and mix method (n = 4). Research has been published in 2016 (n = 7), 2015 (n = 3), 2014 (n = 9), others below 2014 (n = 24). Most discuss about how the model in application internet as learning, internet function, and negative impact of internet.

3.2 Internet Application Structure in schools

Learning through "internet" can be applied by using various forms. The platform for interactive digital learning materials (IDLM) provides various forms of interactive models such as: texts, images, interactive diagrams, audio, social networking systems, digital storytelling, data analyzing tools, animation, video, and scheme [9], [10]. Device that can be utilized as internet-based learning is computer, laptop, tablet, iPod / IM3, and mobile phone [11].

The "platforms" that can be used as "internet-based" learning, among others, the web [12], [13], blog [14] - [16], social media [17] - [19], and blog videos [20]. Web learning is usually developed by itself through a content management system (CMS) basis, some of which have been provided by platforms like WordPress, Moodle [21], or Edmodo. The learning models that can be integrated with the internet are well known for various names such as blended learning [22] - [25], online learning [26], [27], e-learning [27], [28] and hybrid learning [28] - [30].

All forms can then be integrated with various purposes. In language education research, "blended learning using video blogs", uses blended learning models by incorporating interactive video models, video blog platforms and computer / laptop tools to develop foreign-language speech [20]. To explain the behavior of electrons and lines of force in electricity and magnet can be used multimedia-based material [31]. In addition, it can also combine tools with tools such as using blogs and social media [19], more clearly can be seen in Figure 1.

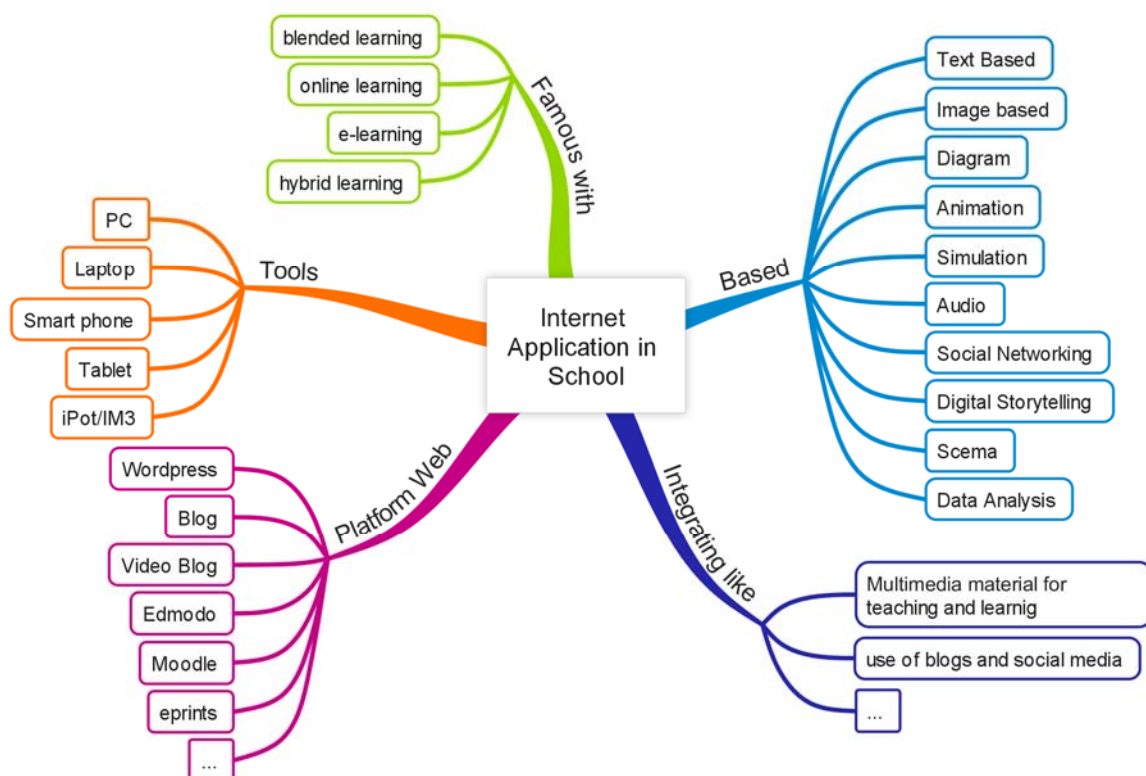


Figure 1. The concept of research in using the internet as a learning in school

Table 1. The advantages of internet-based learning

Benefits of internet usage	Maria Karyotaki, Athanasios Drigas [1]	DeSchryver [2]	Simon [3]	Larson & Murray [4]	Kuo, Chen, & Hwang [5]	D. R. Amy L Baylor[6]	J. Sriarunasmee, P. et al [7]	M. M. Lauren Breen [8]	Joyce Terumbur Dankaro [9]	A. Barak [10]	G. Andersson [11]	P. C. Gorski [12]
Improving high-order thinking skills (Critical thinking, problem solving, creative thinking)	√	√	√		√	√	√					
Achievement of learning (learning achievement, learning chievement)				√			√				√	
Integration with local wisdom				√					√			√
Moral Learning		√	√	√		√		√		√		

√ = evaluable

Blended learning is often associated with proportion in face to face versus distance online learning [41], [42]. Face to face is a learning activity between teachers and students without applying the internet. In contrast distance learning, online is a full learning using the internet. Learning integration is reported to be more effective than face to face and distance learning. Internet integration in effective learning when it meets 80% [43] or more than 50% [44]. Therefore, internet-based learning really guarantees that the internet is given much more than lectures by teachers. Nonetheless teacher guidance is urgently needed especially in explaining the use instructions or technical factors.

3.3 Objectives Internet applications in schools

Based on the literature in Table 1 the function of the internet in learning is mostly used to improve high-order thinking skills. Internet-based learning with the goal of higher-order thinking is mostly applied because of its compatibility with 21st century skills such as problem solving, critical, and creative thinking. Fortunately, the use of the Internet is also capable of incorporating moral elements and integration with local wisdom. Moral education in learning and teaching using the internet is like plagiarism, scientific attitude, and so on. Local wisdom is specified as an online video in which alludes to local wisdom.

3.4 Application Problems at school

The application of internet in schools is still not optimal both in terms of intensity and quality. The lack of internet usage intensity can be understood if the reason is the infrastructure and lack of knowledge in using internet in learning. The quality of internet usage can be seen to what extent the internet function can be helpful in learning and used negatively. Examples of internet functions that have not been optimal, teachers in Central Java use computers and the internet only to seek teaching materials, but not yet used in the learning process [45]. Then the internet example is used as a negative function in which the teachers in South Sulawesi say the use of computers and the internet in schools is very minimal, its use is limited to playing internet and games [45]. In fact, the lack of internet use in schools can be caused by concerns about the negative effects of mass media on juvenile delinquency [46].

Internet gaming has a negative impact on mental health or also called internet gaming soldering (IGD). Four factor IGD cognition is (1) trust to reward provided by game. This factor occurs when the student / teacher of a game player believes that the gifts given by the game are real. They will feel happy if the characters win the game. Even in this factor student / teacher game players will do like what is in the game. The next factor is (2) incomplete and

inflexible rules of the game. Students / teachers will give up even their money for the game. In the next stage, they will reload and try again if the game being played failed or game over. They will not be comfortable when they do not solve the challenge in the game. Next (3) games based on self-esteem. In this factor, they will feel the failure if not reach a certain level. They usually feel better and will also lose stress if playing games. The final factor (4) is the socializing game. This factor is characterized by distrust of others who do not play games. They assume that other people will not understand about him and that playing games keeps them from people or situations that do not make him comfortable [47]. Another study mentions that not only internet gaming is impacting addicting, but also the internet as a whole. [48].

Juvenile delinquency cannot be separated from the internet presence in schools and in the neighborhood. Juvenile delinquency through the internet can be done through various activities, such as making hoax issues, violent gangs, promiscuity, and cyberbullying [49], [50]. This problem may be caused because of the increasing difficulty of internal and external control of internet access. A study states that there is a significant correlation between spending time in the internet and both behavioral issues [51], [52]. Internet-based social media such as twitter, fakebook, WhatsApp, and Instagram also contributed to the impact of juvenile delinquency significantly [46]. Because the facilities provided by the internet more easily and more complex, then bring on the desire to do the negative also easier and then the desire is shared through social media. So a child who initially had no desire to do misbehavior, as a result of the content distributed earlier, will also be affected. This gesture will not stop so that it becomes viral among students.

4. Discussion

Learning by applying the internet is very helpful in achieving learning objectives. But in reality, still experiencing many obstacles, especially in Indonesia. The first obstacle is the lack of infrastructure and internet access. To overcome this obstacle is by the procurement of device tools capable of supporting in the provision of internet signals and procurement device to access. The second obstacle is the skills of teachers or students in using the internet. Lack of skills using technology can be caused by not knowing how to integrate technology in learning. The way to overcome this is to conduct training in the use of technology in learning for teachers.

The third constraint is the fear of teachers in using the internet because of the negative impact of the internet. This constraint can be minimized with the existence of ethical code-based technology education. Friendly internet usage can be done partially or simultaneously. Partially can be done by providing knowledge on how to use the internet to develop knowledge, while simultaneously means learning internet and content integrated which learning is not only aimed for content also aims for moral even local wisdom.

More research is needed on how to integrate technological knowledge, content knowledge, pedagogical knowledge, moral knowledge, and multicultural knowledge. This is intended to reduce the negative impact of technology as well as other goals such as multicultural issues.

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MEMBRANE COMPOSITE BIOPOLYMER BASED ON POLYETHER SULFONE FOR APPLICATION DIRECT METHANOL FUEL CELL (DMFC)

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Abstract

Availability of fossil fuels are increasingly depleted and the reduced supply of crude oil raises deep concern for the source an alternative energy. DMFC is one of alternative energy which does not cause environmental pollution, high efficiency, and operated at a relatively low temperature. In DMFC membrane is the main component for function as a means of transportation other than a hydrogen ion (H^+) generated from the oxidation reaction at the anode as well as a barrier between the two electrodes. Membranes are widely used Nafion, but it has problems that may occur methanol cross-over. To reduce methanol cross-over through the membrane is an alternative electrolyte membrane modification. From some research on composite membrane that has been done shows that the type of material used for the manufacture of membranes, methods of manufacture, and operating conditions the characteristics of the resulting membrane. However, the study has not been about the effect of concentration of the solution, the quantity, the type of solution and method of coating in the manufacture of composite membranes biopolymers to application for direct methanol fuel cell (DMFC). Therefore, need for research on the effect of concentration of the solution, the quantity, the type of solution and method in manufacture of biopolymer chitosan composite membrane. The research was conducted by making backer layer (porous membrane), the membrane lining the manufacture, characterization of the membrane with water permeability test, swelling test, scanning electron microscopy (SEM), and Fourier transform infrared (FTIR), proton conductivity and methanol permeability. Results SEM showed that the morphology of the membrane surface tightly, and the asymmetric porous membrane depends on the composition of the biopolymer. So with the biopolymer chitosan membrane-based polyether sulfone with the specific composition in the membrane structure is expected to reduce methanol cross-over when applied to direct methanol fuel cell system.

Keywords: DMFC, Composite Membranes and Polyethers Sulfone.

1. Introduction

Availability of fossil fuels are increasingly thinning and reduction in world crude oil supply raises a deep concern for the source - an alternative energy source that is kinder to the environment. Through Indonesian Presidential Regulation No. 5 of 2006 on National Energy Policy, the Government has set a national energy mix by the year 2025 in which the role of petroleum as energy will be reduced from the current 52% to less than 20% in 2025. In 2025 also, alternative energy is expected to begin to take on the role of more important to supply 17% of the national energy mix (Legowo, 2007). Among the sources - alternative energy source which does not cause environmental pollution, high efficiency, portable, operated at a relatively low temperature (typically below $100^{\circ}C$) is a direct methanol fuel cell (DMFC) (Zulfikar dkk., 2009).

The main component of this type of direct methanol fuel cell is the membrane. Membrane serves as a means of transport of hydrogen ions (H^+) generated from the oxidation reaction at the anode, and also as a barrier between the two electrodes. Ability Nafion as a proton conductor has been quite good with proton conductivity of 0.082 S/cm. Use of Nafion for PEMFC applications has been very good, but when applied to the DMFC will decrease the performance of the fuel cell (FC) for the occurrence of methanol cross-over. The methanol permeation can lead to the loss of a small portion of fuel used and causes the rate of the reaction at the cathode to be slow, which means degrading the performance of the overall cell voltage (Handayani and Goddess, 2009).

Some research on composite membrane that has been done shows that the type of material used for the manufacture of membranes, methods of manufacture, and operating conditions greatly

affect the characteristics of the resulting membrane. However, the study - the study has not been much study about the effect of concentration of the solution, the quantity, the type of solution and method of coating in the manufacture of composite membranes apikasi biopolymers for direct methanol fuel cell (DMFC). Therefore, the need for research on the effect of concentration of the solution, the quantity, the type of solution and method of coating in the manufacture of biopolymer chitosan composite membrane. PES selected as the membrane support, as it has a mechanical strength, chemical stability and high thermal and the perfect film formation (Susanto and Ulbricht, 2009).

The use of chitosan as a thin layer of non-porous is based on hydrophilic properties, the ability of forming a good film, adhesion (adhesion) is strong on a support, biocompatible and easy to chemically modified because it has chemical groups/functional reactive (Uragami, 2005; Bhat and Aminabhavi 2007). The existence of chitosan are abundant in Indonesia is another attraction of this kind of use of biopolymers. The concentration of biopolymers, the quantity of the coating layer, the type of biopolymer (chitosan) and a coating method (casting and localized), predicted to influence the characteristics of the resulting composite membrane. So with the biopolymer chitosan membrane-based polyether sulfone with the specific composition in the membrane structure is expected to reduce methanol cross-over when applied to direct methanol fuel cell system.

2. Method

This study was conducted at the Laboratory of Chemical Research, Yogyakarta State University.

Subjects in the study are the manufacture of composite membranes Polyethers Sulfone-based biopolymers. While the object of study is the result of making a composite membrane Sulfone Polyethers based biopolymer with a specific composition for application Direct Methanol Fuel Cell (DMFC).

In this study, the tools used is a plate of glass the size of 15 cm x 25 cm, blade casting, tub for soaking, oven, balance of electrical and appliance permeability test, FTIR (Fourier Transform Infrared) and SEM (Scanning Electron Microscopy), while the materials needed are PES, N-Methyl Pyrrolidone, Chitosan, acetic acid glacial, Aquadest, Ethanol technical, and Ethanol pa.

The method used in this study includes the step of making a layer of backer (porous membrane) and the stage of manufacture of composite membrane (dense layer coating).

The research steps as follows:

1) Adoption advocates Layer (Porous Membrane)

Membrane made by phase separation method (phase separation) using water as nonsolvent. To make a solution of 13% PES, PES fifteen grams of polymer dissolved in 100 ml of NMP solvent and stirred until completely dissolved. Six ml soluble then cast with a thickness of 200 microns above the surface of the glass substrate size 15cm x 25 cm. The result of casting then fed into a bath containing one liter of distilled water and soaked for one hour. The resulting membrane was rinsed and soaked in distilled water for 24 hours to remove the solvents residu. After that, membrane dried at room temperature for 2 hours and followed by drying in an oven at a temperature of 40°C for 24 hours.

2) Preparation of Composite Membrane (Coating Dense Layer)

For the manufacture of composite membranes by dip-coating technique, the surface of the membrane active proponent of PES coated using a solution of chitosan or alginate. One gram of chitosan dissolved in ninety-nine ml of a 1% solution of acetic acid in water and stirred to obtain a homogeneous solution. Chitosan solution then dicastingkan the active surface of the membrane backer. After the membrane was dried at room temperature for 2 hours and was followed by a drying temperature of 40°C in an oven for 24 hours.

In the present study, the resultant composite membrane products were then analyzed to determine the characteristics of the membrane that covers: (1) Test the water permeability; (2) Test swelling; (3) Test FTIR (Fourier Transform Infrared); and (4) Test SEM (Scanning Microscopy Electrone).

1) Water Permeability Test

Permeability is the volumetric rate of fluid passing through the membrane (permeate) per membrane area per time per unit pressure across the membrane. Permeability is a basic indicator used to determine the productivity of a membrane. The amount of membrane permeability can be expressed in kg / m².jam.bar. Water permeability was measured with pure water stream into a membrane module with a

certain pressure. The resulting permeate volume will be measured gravimetrically for a certain period. Pure water permeability is the gradient of the graph of flux with the pressure.

2) Swelling Test

Swelling test performed in water, ethanol and ethanol pa technical. The dried composite membrane was weighed, then soaked in water for 2 hours. After that the membrane surface in a state swollen wiped with a tissue and then weighed. The same procedure is carried out to test the technical and swelling in alcohol alcohol pa.

3) FTIR Test

Using FTIR analysis aims to determine the functional group contained in each sample. The working principle of FTIR spectroscopy is the interaction of energy and matter. Observation of the functional groups using a test Fourier transform infrared (FTIR) performed at the Center of Polymer Technology (STP) -BPPT. In this study will be compared fourier transform infrared spectroscopy (FTIR) IR spectra of the membrane and membrane composite advocate and influence of the coating layer to the intensity levels of the wavelength obtained. To Chitosan will be a spectrum of groups OH and NH₂, while the alginate will see the spectrum of the OH group and COONa.

4) SEM Test

Surface morphology of the membrane can be observed using scanning tools electrone microscopy (SEM JEOL JSM

6510) with a magnification of 5000x with ASTM E 1252. SEM Test conducted at the National Atomic Energy Agency (BATAN).

Data processing method used was a descriptive study, the method of study that examines a situation with the aim of making the description and picture of systematic, factual, and accurate information on the facts on the ground as well as the relationship between the phenomenon investigated. Data processing is intended to obtain important information that will be interpreted later.

3. Results

The process of making a composite membrane polyether sulfone-based biopolymer applications for direct methanol fuel cell (DMFC) includes the step of making backer layer (porous membrane) and the stage of manufacture of composite membranes (dense layer coating).

In this study, use a solution of 1% acetic acid as the solvent of chitosan. This study aimed to assess the effect of chitosan solution concentration, the quantity of coating and coating method possible to the characteristics of PES membrane-Chitosan.

In research Pratiwi (2011), the effect of chitosan on the permeability of the solution concentration and the degree of swelling in water, technical alcohol and absolute alcohol from PES- chitosan composite membrane is presented in "Figure 1".

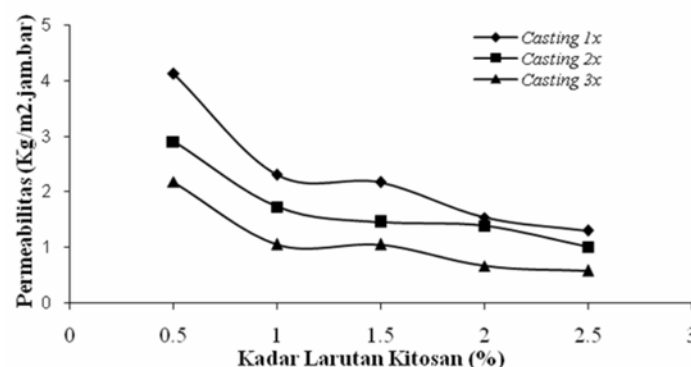


Figure 1. Levels of Chitosan Solution (%)

In "Figure 1" shows that the increase levels of chitosan solution on PES-chitosan composite membrane prepared by casting method, an impact on the decrease in permeability. This is due to increased levels of chitosan solution have

an impact on the increase in the thickness of the coating layer. The thicker the coating layer contained in the composite membrane, will cause the permeability of getting down (Mulder, 1996; Zhang and Drioli, 1995).

Although chitosan is hydrophilic (Bhat and Aminabhavi 2007; Uragami, 2005) that are expected to increase permeability, but it turns out the thickness of the coating layer is more

competitive than its effect on the permeability of hydrophilic properties. It is also supported by the results of SEM analysis.

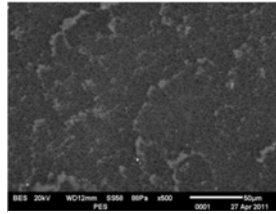


Figure 2. Top view PES membrane

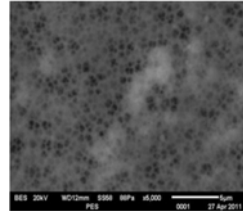


Figure 3. Magnification 500x

By comparing “Figure 2” and “Figure 3” on SEM photograph appeared on the PES membrane and membrane Chitosan PES- seen that the coating affect the pore blocking. In “Figure 3” appears that the rising levels of chitosan solution pore blocking an impact on

increasing the impact on the decrease of permeability as evidenced in this study.

The results of FTIR analysis Pratiwi (2011) as presented in “Figure 4” and “Figure 5” supports the phenomenon.

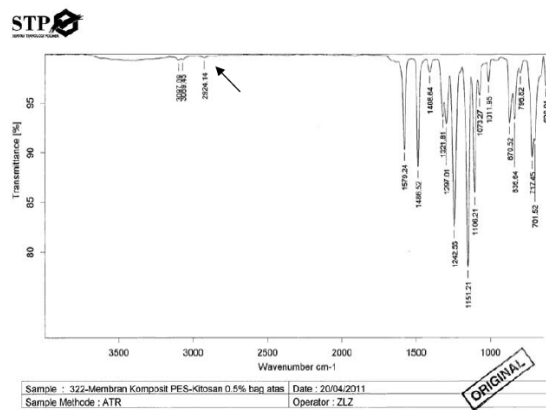


Figure 4. FTIR Analysis of PES-chitosan composite membrane of 0.5%.

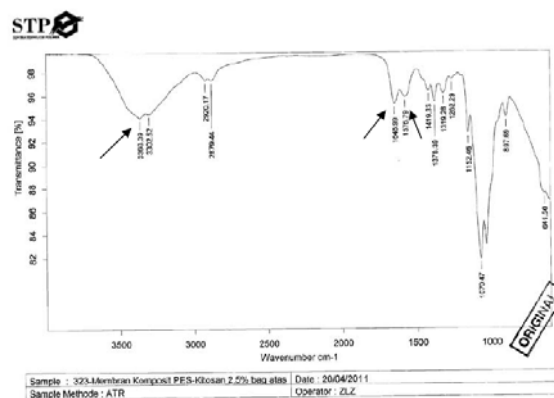


Figure 5. FTIR Analysis of PES-chitosan composite membrane 2.5%

In the picture it appears that the rising levels of chitosan solution resulted in increased

intensity in the area owned by the wave number of hydroxyl and amine ,

In research Pratama (2011), the highest permeability of 4.119 kg / m².jam.bar obtained on the use of chitosan solution concentration of 0.5%, and 0.520 kg / m² permeability.jam.barlow as obtained in the use of chitosan solution concentration 2,5%.

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CONTRIBUTION OF MATHEMATICAL EDUCATION IN IMPROVING QUALITY OF LIFE STUDENT BASIC SCHOOL

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Abstract

Believe it or not, please take a look at the phenomenon of life that everything happens because of a causal relationship. When we experience a pleasant or sad event and then try to introspect ourselves then ask why this is happening, surely we can find the cause as the answer. This study aims to reveal the importance of training the mindset of students based on the concept of mathematical logic from an early age, so that unpleasant events will not be repeated again, so as to improve the quality of life of students in the future. Through ex post facto research with survey method shows that not many teachers are able to give stock to the students so that later can live quality. The result of the research is the data obtained from 58 active students from teacher and education faculty who have worked as teachers in elementary, junior high school. Samples were randomly assigned from those who enrolled the teaching practice course. Through an interview questionnaire, 93% said it was unthinkable to associate the concept of mathematical logic with the preparation as a provision of quality living for their students. As many as 7% say they've tried to link it, but still doubt whether the way that is done is correct or not. It can be concluded that they need training, motivation to become teachers who are able to use the concept of mathematical logic as the basis of logical mindset in order to familiarize the students avoid disappointment. Furthermore, teachers and parents who have elementary school age children are expected to be able to familiarize and instill logical mindset for elementary students. Habits can be started through simple examples such as when teachers' pay attention, are there students who are sleepy when listening to teacher explanations? If there is then the student should be approached, asked for example what time of night sleep, why sleep late?, from student answers can be used as an example of a bad result and please remember not to be repeated again so tomorrow can lead a better life.

Keywords: mathematics education, quality of life, elementary school.

1. Introduction

In everyday life must be many kinds of events that can be used as material for example or media learning for any field of study, especially the field of study of mathematics education. No matter believe it or not, but it's all the reality of life that everyone likes to live happily and everyone would not want to live hard. Please research by looking at every life phenomenon that everything that happens because of a causal relationship. When we experience events that are either fun or sad events then try to introspect ourselves by trying to ask ourselves why this happens, surely we can find the cause as the answer. Attention to this phenomenon is so important that unpleasant events will not happen again. If associated with character education then this introspection habits can make a person who is not arrogant because whatever happened to him is definitely no reason. Mathematics education teachers are expected to have been able to inculcate the

concept of logical thinking through the concept of logic implications and biimplications.

Learning mathematical logic means learning to think or reason which is a regular activity of human reason with the knowledge we receive through the five senses and then processed and aimed to achieve a truth. By thinking we learn to judge something so that it can be concluded the benefits of learning logic is that we manifest the mind to be able to consider, ponder, analyze, convey the argument, prove something, classify, compare, draw conclusions, examine the way of thinking, find causes, discuss in reality and others, other. Another benefit of studying logic, in order to think logically, critically, precisely, coherently, consistently, and correctly.

There are several reasons that can be put forward by Sumaryono (1999) why we need to study logic [1]: 1) Logic educates us to think clearly and critically, 2) Logic enables us to carry out the necessary intellectual discipline in concluding or drawing conclusions, 3) Logic

helps us to interpret facts and opinions of others adequately, 4) Logic trains us on how to set assumptions and Implications, 5) Logic helps us detect erroneous and unclear reasoning, 6) Logic provokes scientific and reflective thoughts, so it can be said that the Logic of Mathematics is closely related in everyday life.

Implication

Implication according to Rachmiazasi (2016) is a mathematical logic with the concept of logical conformity. Both statements will be linked by using symbol (\Rightarrow) meaning read "**if p then q**". For more details please note in the following truth table [2]:

p	q	$p \Rightarrow q$	Mathematical Logic
B	B	B	If initially TRUE then finally TRUE then concluded TRUE
B	S	S	If initially TRUE then finally FALSE then concluded FALSE
S	B	B	If initially FALSE then finally TRUE then concluded TRUE
S	S	B	If initially FALSE then finally FALSE then concluded TRUE

$p \Rightarrow q$ otherwise read "if p then q"; can also be read "q only if p"; "p requirement is necessary for q"; "q sufficient condition for p"; For statement "p" called antecedent or hypothesis and "q" are called consequence or conclusion.

Implication $p \Rightarrow q$ is true if the consequences are true or antecedents and consequently both are false, and are false if the antecedents are true, whereas the consequences are false.

Biimplication

On biimplication, Rachmiazasi (2016) the statement will be concluded correctly if both of them have equally true or false values. Additionally, statement will be inferred incorrectly. The bi implication is indicated by the symbol (\Leftrightarrow) meaning can be read "**p if and only if q**" [2].

p	q	$p \Leftrightarrow q$	Mathematical Logic
B	B	B	p is TRUE if and only if q is TRUE (concluded true)
B	S	S	p is TRUE if and only if q is FALSE (concluded false)
S	B	S	p is FALSE if and only if q is TRUE (concluded false)
S	S	B	p is FALSE if and only if q is FALSE (concluded true)

$p \Leftrightarrow q$ otherwise read "p if and only if q" (often abbreviated "p jhj q") can also be read "if p then q and if q then p"; "p is necessary and sufficient for q"; q necessary and sufficient conditions for p
Biimplication $p \Leftrightarrow q$ is true if both antecedents and consequences are either true or both are false. If this is not the case then the biimplication is false.

In carrying out the task of teaching mathematics, often the most important for the teacher is how to understand the material to be taught, choosing the right learning strategy when about to deliver the material, prepare the media and examples in the events of everyday life that is appropriate and has been experienced by students for easy concept Understandable students. How can a teacher to train students to think logically in every problem, and how appropriate solutions to solve them, this is a phenomenon untouched by the teacher education

training program. Yet by having logical thinking, we can create a better and more mature life plan and able to make a good priority in determining a decision-making choice. Not only that, by thinking logically, we are not easily fooled and cheated by others. Logical thinking makes us able to analyze what other people are talking about and doing, what is the purpose of both, and what we should do or what our response is to avoid that we are not stuck with what people say and do around us. Logical thinking can make us not only follow the flow without having a clear rationale of what we decide. For teachers it becomes very important to understand the concept of logic especially on the concept of implication, biimplication and trying to develop it through various examples it will form a logical mindset that can be utilized as stock when it comes to making decisions to avoid wrong decision.

Many factors influence when people have to make decisions, including the ability to communicate and the ability to argue. Zins (2001) has compiled from various studies on the positive effect of children's emotional intelligence on success in school. There are several risk factors that cause child failure in school. The risk factor does not lie in intellectual intelligence, but in emotional intelligence is often called character [3], such as the ability to work together, self-confidence, ability to concentrate, and communication skills. Communication ability is closely related to the ability to argue, as the basis of argumentation is a logical mindset that comes from arguments in mathematical logic. According Hartati (2013) in general there are two kinds of arguments, namely: valid and invalid arguments [4].

Valid arguments consist of:

- 1) Silogisme Disjungtif (DS) : $p \vee q$
 (Disjunctive Syllogism) $\sim p$
 $\therefore q$

In the disjunction syllogism, the initial statement "p or q", if that happens "not p" then the conclusion is "q". Teachers should be trained to be able to create the feel of a statement sentence that can be given as an example in everyday learning such as "pingin your life successful or your life miserable", if your life is not successful then the conclusion of your life miserable.

- 2) Modus Ponens : $p \rightarrow q$
 (Modus Ponendo Ponens) p
 $\therefore q$

- 3) Modus Tollens (MT) : $p \rightarrow q$
 (Modus Tollendo Tollens) $\sim q$
 $\therefore \sim p$

- 4) Hipotetikal Silogisme (HS) : $p \rightarrow q$
 (Hypothetical Syllogism) $q \rightarrow r$
 $\therefore p \rightarrow r$

Invalid arguments consist of:

- 1) Membenarkan Konsekuen (MK) (The fallacies of affirming the consequent)
 $p \rightarrow q$
 q
 $\therefore p$
- 2) Menyangkal Antiseden (MA) (The fallacies of denying the antecedent)

$$\begin{aligned} p &\rightarrow q \\ \sim p & \\ \therefore \sim q & \end{aligned}$$

In understanding the concept of argument on mathematical logic can be used as a habit of discussion in the group of teachers or can also be used as a form of training that can motivate teachers to be able to familiarize students think logically, systematically and consistently so that later can achieve quality life.

2. Method

Through research ex post facto aims to investigate and reveal the truth whether the conditions that have occurred is due to the behavior that has been suspected before. The use of survey methods along with interviews aims to increase confidence and ensure various allegations that have been previously owned. Through interviews and surveys it is generated that it is true then recognized by all teachers when a person is able to use his logical, systematic, consistent, mind-set of minds, and can be ascertained when a person has attained the happiness of life or feels he has a better quality of life It can be classified that they use the analysis of logical thinking when making decisions. When the daily use of WhatsApp (WA) can not be avoided by everyone as well as teachers, we can then make the most of the group, from 58 members of elementary, junior high, and senior high school teachers, aged 35-45. They are all still reminiscing of the time when they were in elementary school of both pleasant and sad events. So the ability to remember this is proof that the elementary school is a golden period that is difficult to forget. Since elementary school, most of them have dreams as vision and mission of their future life. Only 10% of those teachers get motivated by their elementary teachers, while 90% remember getting motivation from parents and family to find their goals. As respondents these teachers claim to have felt a better life when compared with his friends first. The experience of the interviews made the researcher want to express the importance of training the mindset of students based on the concept of mathematical logic from an early age, so that later can improve the quality of life of their students in the future. Through ex post facto research with survey method shows that not many teachers are able to provide supplies for students who lead to quality life. From the data of respondents 58 active students from the faculty of teacher and education who already served as teachers in elementary, junior high school. A random sample

of those who enrolled the teaching practice course. Through interview questionnaires indicate that they need training to become teachers who are able to familiarize students with their logical, systematic and consistent mindset. Through an interview questionnaire, 93% said it was unthinkable to associate the concept of mathematical logic with the preparation as a provision of quality living for their students. As many as 7% say they've tried to link it, but still doubt whether the way that is done is correct or not. It can be concluded that they need training, motivation to become teachers who are able to use the concept of mathematical logic as the basis of logical mindset in order to familiarize the students to have a quality of life expectancy.

3. Result and Discussion

In Mathematics education has been instilled the concept of logical thinking through the concept of implications and biimplications. This concept can form a logical mindset that can be utilized when making decisions to avoid wrong decisions. It would be nice if the teachers and parents who have elementary school children are able to utilize the golden time to equip and instill logical thinking. A logical mindset for elementary school students can be started through a simple example like the teacher noticing that there are sleepy students when listening to teacher explanations? If a student is approached, asked what time of the night sleep, why sleep late?, from student answers can be used as an example of a bad result and please remember to not be repeated again so tomorrow can lead a better quality of life. When having a sick child, parents should immediately ask "you ate anything, drink anything?", The child is invited to recall what has been done so that cause illness. In this way familiarized it will be patterned dipikiran child to be more careful in choosing food and drink so as not to hurt anymore. The problematic life is closely related to the problem or math problem, so it is wrong if the teacher starts the lesson does not use examples of stories related to the life of his students.

Characteristics in the mathematics lesson that has an object of study that is increasingly abstract in accordance with the level of education that makes students have difficulty in learning. This is because mathematics is not just a matter of counting but how to choose, to use information accurately, accurately, and efficiently in solving problems, and how to formulate and interpret solutions that are made to be understood by yourself as well as others. This

is in line with Johnsons in Kleden (2013) which suggests that solving math problems is a complex mental process that requires visualization, imagination, analysis, abstraction, and the unification of ideas [5]. So the teacher needs to understand that the material presented will be more easily accepted if the student begins with the story and not the story about the story is placed or delivered at the end when conveying the concept.

It is reinforced in NCTM (2000) that communication makes mathematical thinking observable and encourages students to reflect on their own understanding of mathematics and the understanding of others [6]. In line with NCTM (2000), in Permendiknas No 22 of (2006) on Mathematics Subject Matter Standard affirmed that the purpose of learning mathematics, among others [7], are (1) problem solving which includes the ability to understand the problem, design mathematical model, complete the model, and interpret the solution obtained; (2) communicating ideas with symbols, tables, diagrams, or other media to clarify circumstances or problems; (3) has an attitude of appreciating the usefulness of mathematics in life, which has a curiosity, attention, and interest in learning mathematics, as well as a tenacious attitude and confidence in problem solving. If until now still found teachers convey the concept of mathematics begins with *cotoh* about the numbers, then this is the cause of the story it looks very difficult. Many elementary students still ask the teacher when they are going to work on the story, "what's the number 1 pack plus what is reduced?" And often makes the teacher annoyed or angry. This phenomenon must be followed up immediately by self-reflection and immediately make improvements to the delivery of material, from proper planning, implementation, reflection, accurate improvement.

Furthermore in the Education Unit Level Curriculum it is also said that students as learners are expected and required to have (1) Problem solving skills in mathematics, as well as other subjects, as well as real life related issues; (2) Ability to use mathematics as a means of communication; And (3) The ability to use mathematics as a viable means of reasoning in every situation, such as critical thinking, logical and systematic. Observing the purpose of mathematics education and NCTM standard above can be said that the ability of mathematical communication is needed in learning mathematics. By having this ability, students will appropriately explore the mathematical ideas and strategies they use to solve a problem in the form

of language both orally and in writing. Through good communication, students are able to convince themselves and others about their thoughts and have confidence in learning math. This communication capability should be based on logic concepts such as implications and biimplications, in order to avoid mistakes in word selection decisions as well as decision-making.

Quality of life

Professor emeritus field of Clinical Psychology Faculty of Psychology (Fapsi) Unpad, Prof. Dr. H. Soetardjo A. Wiramihardja in Maulana (2013) reveals, mental health (mental health) associated with the condition of the soul and healthy behavior. Mental health is also associated with mental hygiene that supports the body to be healthy (healthy life) [8]. If the condition has been owned by someone, it will create a good quality of life (quality of life). Quality of life is how a person's quality when viewed from the interaction with life around him. Mental health is an optimal condition that concerns the intellectual, emotional, and social side without any disturbance. Optimal conditions occur when the presence of a person does not interfere with his environment, especially in the social environment. If a person has great intellectual power, but is used to do actions that destroy the environment for his pleasure, it can not be said to be healthy. In addition, many people are clever but they are not ready to use *inteligensinya*, it also can be said is not healthy. For example, a student is clever but apparently likes to interfere with friends, like to quarrel with friends, it can also be said is not healthy. Then, how to characterize people who have good mental health? Prof. Soetardjo explains that people who have good mental health is able to maintain self, temperament, ready-made intelligence, behave with social considerations, have a happy tendency, and able to adjust according to their environment. Adjusting here means that one is able to actively adapt to its environment according to plan, without any compulsion to conform. How to get students to have provision of Quality of life and mental health early on, it is definitely needed more qualified teachers in mental and life. If mental health has been maintained, then automatically the quality of life will be good. This is because, between mental health and quality of life is part that can not be separated. Mental health will improve the quality of life and quality of life will improve mental health. To improve the quality of life, Prof. Soetardjo suggested that humans should be

able to interact based on 3 natural, including the natural objects that utilize the nature of things on the basis of mutual care. The social realm, which is capable of building intersubjective relationships with other human beings on the basis of mutual love, and able to build *noogenik* interaction (culture, ideas, and values). This means that every individual who wants a better life and quality needed interaction skills with everything that is around us. Do not let when have ideas, do not consider the surrounding culture, do not have a positive value for the environment. The last realm is transcendent nature, that is to believe and grateful that all the good that exists is the *rachmat* and the grace of Allah SWT, so that a better quality of life can be easily achieved.

4. Conclusion and Discussion

Elementary School Teachers and parents who have children are still in elementary school should recognize the important time in this golden age. Embed in elementary students logical, systematic, and consistent mindset through a real example of mathematics education as a provision to improve the quality of life later if grown. Their memories are so strong that they need to be exemplary every day and every time. Contribution of special mathematics education to the logic of implications and biology can be the basis for thinking, arguing, and making correct decisions. Mathematical ability is the basis of the ability to communicate with surrounding environment full of confidence.

Teachers need continuously in training, as this era of life also develops. Teachers also need exemplars to be able to familiarize their students using a critical, systematic and consistent mindset. Do not expect students to live quality if the teacher has not had a healthy mental and a quality life yet.

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DEVELOPING TEACHING - LEARNING MATERIAL OF INTEGER AT STUDENTS OF THE ELEMENTARY SCHOOL TEACHER EDUCATION

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Abstract

This research aimed to develop teaching-learning material about the interger and how to carry out the teaching-learning it in elementary schools. The material was for students of the elementary school teacher education. This research is a research and development (R&D) by using Plomp Model. The modification of this model was test, evaluation and revision changed to be validation, try out and revision. This research was carried out in steps namely: preliminary research, planning, developing and products realization, validation, revision and to be continued with the field test, and the last revision. When the design had been realized and considered to be enough, expert validation was carried out to determine whether the material about interger and its teaching-learning in elementary schools was valid or not. . Eeffectivity test, was carried out by trying out the product through the following steps; trying out of the material , result analysis about anquetes and students' opinion about the material . Data technique analysis comprised: (1) the worth of instrumens; (2) the worth of teaching-learning material; (3) whether or not the material of interger was valid and (4) the result of field test. The research result showed that the expert validators recommended that the teaching-learning material about interger, either from the material, prensentaion, language, and the completeness of the material point of view were fairly good. So, the teaching-learning material about interger and how to teach it at elementary schools could be used by both students and lecturers. After trying out , the student anquetes results showed that either from material, language, interest, standard or suitnesss with the modern era point of view, were fairly good or effective. It could be concluded that the material about interger and its teaching-learning in the elementary schools was effective and could be used as a reference in the teaching learning of elementary school teacher education.

Keywords: *Teaching-Learning Material of Integer, Elementary School Teacher Education Students*

1. Intoduction

The development of technology and its application needs mathematics as the basic knowlede. Mathematics could be the servant of any knowledge especially for the development of technology. Technological development is very important for Indonesian people, because Indonesia is a developing country. It is acknowledged that Indonesia has potensial of natural resources for the welfare of the population; but Indonesian people have not been able to explore and manage the resources by themself. The mining of natural resources like gold, oil and the like is still carried out by the forein companies. In order to be able to explore and manage the natural resources, the Indonesian young generation beginning from elementary schools has to master basic knowlege especially mathematics.

Science and technology always developes in accordance with the needs of modern lifes of human being. The indonesian young generation beginning from an elementary level up to higher

education has to be motivated in order to master sicience and technology, but they should have Indonesian character and culture. The development of science and technology is almost created by mathematics' discovery. *Mathematics is a key to many opportunities. It opens doors to careers, enables inform decisions, and helps us compete as a nation* (Bavaristuta: 2010). That is why mathematics education plays an important role in developing the quality of human resources with Indonesian personality. Elementary students have to master the basic kowlegde of mathematics, who have Indonesian character and personality, as well as believe in God. The effort that has been carried out by the govermant are upgrading the quality of teachers, developing the curriculum, realizing many medias, and any other efforts. Nevertheles, the result has not been in accordance with the Indonesian's hope.

Syarwan (Kompas, 2013 : 11) stated that the result of International Comparative Study from IMQ (*International Mathematics Olympiad*) and PISA (*Program for*

International Students Assesment) showed that the study quality of Indonesian students everagely were in the lower stage compared with students from Asian countries. This is because of the mathematics mastery is still low. According to Russeffendi (in Setijab, 2011:207) , the importance of mathematics mastery in elementary schools were as follows: (1)students would be able to do counting (arithmetics) and other mathematics activities; (2) mathematics could be a requirement to study other knowledges; (3) by studying mathematics, counting something would be easier and simplier; (4) students would be able to think logically and critically, and they would be responsible students. It may not be denied, many students said that mathematics was difficult to be studied and some of them were afraid of it.

Integer is mathematics material that should be studied from early students of elementary schools. This material is a basic for the development of other numbers like fraction, rational and irational numbers and the like in the mathematics system. Many students of elementary schools were still confused of addition, subtraction operation and multiplication as well as division of integer. This situation caused students confused when they faced problems about integer. The characteristics of divisibility was always not to be learned in elementary schools. The mean score of integer achievement in Temanggung sub districk was 50,5 in the score range of 0 -100 (Septi Setyorini: 2010:3)

Elementary school teacher eduction students as candidates of elementary school teachers have to master the basic consept of mathematics related to the mathematics material in the elementary schools. As long as the researcher's experiance, when he was in the elementary school teacher eduaction, the basic knowledge of interger hasnot been mastered by the students. The method how to teach interger in the elementary schools has not been mastered weel, so when the students paractise teaching in the elementary schools, some elementary school students were confused. Not all lectures discussed about the characteristic of divisibility when they were carrying out the teaching-lerning. Besides, the source material of interger considered match with the students was very limited. Though there was material about interger, it doesnot contain the method how to teach it in the elementary schools. That's why it was very necessary todevelop the interger material in the elementary school teacher education study program.

Realising the situation described early, it was necessary to search for solution, and one of them is developing interger material and how to teach it in elementary schools. Though it had already been known what had happened in elementar school teacher education students related to the integer material, this research was also preceded by preliminary investigation both in elemenary school teacher eduations and elementary schools. After the information completed, the desaign was constructed up to interger material was realized. Vlidation and revision was carried out after the material was complete. Ater validation finished, trying out was also carried out; up to the integer material qualified and valid.

2. Method

Since this is a research and development, the research design used was Plomp Model (2001). There was a modification of this model namely test fase, evaluation and revision were changed to be validation, experiment and revision. Developing teaching-learning material in this research consisted of four stages; namely: (1) early investigation, (2) planning, (3) realization, (4) validation , evalution and revision. The activities carried out in the preliminary research were gathering information about the problems of teaching - learning of integer in elementary schools especially in elementary school teacher education study programs. By the information got, the researcher stated to develop teaching-learning material of interger and the method of how to teach them in the elementary schoosl, focusing on the interger material in the elementary school teacher education study progam. To develop teaching-learning material of integer which was in accordance with planning model of integer, in this stage, the early investigation about the teaching-learning of integer was carried out in elementary schools and elementary school teacher education.

To prepare the quality human resources in the future, it was necessary for the elemenary school teacher education students master the material of interger and how to teach it in the elementary schools. In the development process, in order to get the material as the element of teaching-learning or lecturing modul, it should be valid and efective. Developing research instrumens was conducted in the same time with the development of teaching-learning interger material and how the method of teaching-learning in elementary schools.

The activities in the stage of validation and revision were: (1) asking for experts to give suggestions, inputs and other advices to make the construction draft of integer to be better (2) discussing with students, practitioners, and mathematics education experts (3) revising the construction of integer material and its teaching-learning in the elementary schools based on the inputs from experts, practitioners and students.

The data collection technique was mainly by questionnaires, to measure the teaching-learning material of integer was used validation instruments about integer. That instrument was used to measure the validity comprising content, construction, material, the truth and language. In other words, the validity in this research was logical and content validity. Determining the samples used as the research subject was by using purposive sampling. The subject was elementary school teacher education students who faced problems of mastering integer and its teaching-learning in the elementary schools.

The instruments' worth and match with subjects were analyzed by the following steps: (a) the result valuing from every experts was in the table, (b) whenever data frequency worth to be used with revision, compared with the data frequency unworth, for a certain informant, then the instrument was usually continued to be used; (c) whenever, there was input from experts, and it was written in the instruments, then it will be as a consideration to determine the revision. This analysis should be in accordance with field condition.

Validity of the teaching-learning of integer and its teaching-learning in elementary schools, was determined by competent experts. Besides, the integer material was also tested to elementary school teacher education students to make sure whether the material was effective or not. To make sure the degree of effectivity, the students are also asked to fill the questionnaires. All aspects and indicator scores from experts, practitioners, and students were counted to search for the mean of the them.

3. Results

a. The result of preliminary research

In accordance with the early design, to develop the teaching-learning material of integer, there should be identification and information analysis of research subject condition. Those analysis comprised elementary students who were studying integer, teachers, and teaching-learning material about integer. The analysis consisted of early students' capability about integer concept, students family economics background,

condition of the place where students study and the like. Determining mathematics material, especially integer was also analyzed. Based on the result of observation and interview, it was found that the teaching-learning of mathematics especially the material of integer had not in accordance with the hope; among them were: (1) teachers' mastery about integer has not been satisfied; it caused the teaching-learning of integer was wrong conceptually and the material was not in right occurrence; (2) teaching-learning principles like from concrete to abstract, easy to difficult, simple to complex, enactive to iconic and symbolic did not occur; (3) the running of teaching-learning depended on the teachers' preference only; (4) methods, approaches, strategies of teaching-learning was the same as when the teachers studied in elementary schools along time ago; (5) it was clear that teachers had not been ready to carry out the teaching-learning about integer, it was characterized that when students asked her, she could not answer correctly; (6) students faced difficulties when they tried to understand integer concept, the counting operation of integer and problem solving connected with integer; (7) students often complained when the time of learning mathematics arrived. The result of observation and interview with students of elementary school teacher education showed that: (1) not all lectures agreed with integer material available; (2) students did not study integer material comprehensively (3) every mathematics lecturer used their own integer material reference; (4) they did not get the whole integer material and how to teach it in the elementary schools completely.

b. Planning Stage

This stage was the time for constructing a solution about problems had been designed from the early investigation. There was the fact that there was no teaching-learning about integer material agreed by all mathematics education lectures. That was why it was necessary to make agreement about the integer material that could be a reference or the source of teaching-learning material of integer in elementary school teacher education. The construction comprised integer concept, counting operation of integer, prime number, composite number and all of them were followed by the method of teaching-learning in the elementary schools. Teaching-learning addition and subtraction of integer specialized on the positive and negative number, whereas the construction of other counting operation on

multiplication and division was illustrated in other opportunities.

The teaching method of prime number by using *the serve of Erasthomenes* was also illustrated in this research. All the material presented, was completed by methods of teaching-learning of that material in the elementary schools based on the up to date material sources. By constructing this teaching-learning material, the mathematics lecturers were expected to have the same sources of book; and the material development depends on lecturers' creativity. By realizing that teaching-learning integer material, the students could be able to master the interger and how to teach it in the elementary schools easily. The construction planning comprised : (a) construction containing reasons of the importance of construction of integer material for the students, main materials discussed in the teaching-learning material; (b) description of detail material comprising interger concept, divisibility, prime and composite number, and how to teach them in elementary schools. Besides, the greatest common factor, and the least common multiple and the teaching-learning of them in the elementary schools and square number as well as cubic number were also presented in this occasion.

c. Validation and Revision

Expert validation was carried out by mathematics expert from the faculty of mathematics and sciences, in the month of September 2006. It happened when we together tested the students' last task paper; the researcher negotiated with him, and he agreed to validate the material. The score range that had been constructed in the validated sheet was between 1 – 4. A week later, the validation had already finished, and the validation result was as the following written form. At the beginning of the discussion, that was about the introduction, the validator gave 3 as a score and it was meant to be good, though there were some cases of material that should be repaired. The good category showed that introduction in "teaching-learning of integer material and its teaching-learning in elementary schools", could be used, though the revision should be continuously carried out. In the discussion of early concept; was it in accordance with every day life? In this case, the expert gave 4 as the score. In other words, the early concept presentation was really in accordance with everyday real life. It showed that the validator agreed with the early concept, with his interpretation was very good. About the

material model which was matched with elementary school teacher students, the expert agreed because he gave 4 as score. It meant that the material had been in accordance with the students' principles.

According to the expert, the language used, had been in the good category, though he gave 3 as a score. He stated that in this integer material, there were foreign terms that might make students difficult to understand. In using symbols and other mathematical attributes had already been good and the expert gave 4 as a score. In short, this interger material had motivated the students and had been interesting for both students and lectures in teaching-learning activities, for the expert gave 4 as a score.

Based on the validation from the mathematics expert, it could be concluded that the teaching-learning of integer material and its teaching-learning in elementary schools could be used by both students and lectures in the elementary school teacher education study program, though to make the the material really complete needs other efforts

d. Field Testing

The test was carried out to 20 elementary school teacher education students in Oktober 10th 2016. The constructed interger material was distributed to students and the material was as teaching-learning material in that time. The students participated actively in that teaching – learning. Finishing discussion about integer followed by its exercises, angquates were distributed and the students were requested to fill the angquets carefully.

Based on the anquets sheet collected from students, in the case of whether or not the material was interesting; the students gave 3,25 as the mean score, so it was good and not individualistic. Students were able to understand the integer material easily. In the case of good looking , the mean score given by the students was 3,13 or in the interesting category. According to the students, the materials should also in many interesting colours. The mean score given by the students was 3,13 in the case of language. It meant that the language is also interesting though as the language of mathematics is denotative and not connotative as the language in literature. Besides, some terms were in international language because their national language was Indonesian. The figures given in the material to illustrate and to make clear the concept of interger was given 3,26 as a score by students. It meant that the pictures was also interesting, though it was not as interesting as in

the art pictures. From the point of view of interest, it could be concluded that the integer material was worth to be used as the teaching-learning material in elementary school teacher education study program. From the point of view of material, the mean score given by the students was 3,26; which meant that the material was not too difficult to understand. Besides, the problem exercises were up to date and matched with situation problems in this modern time. The source of material taken by the research was given 3,20 as the mean score; which meant that the source of material were all fairly interesting and in accordance with the modern expectation.

Based on the anquets from the students, it was concluded that the integer material being discussed by students at that time was good and worth to be used by students of elementary school teacher education as the teaching-learning material. Besides, that material was in effective category. This material had of course not been complete; that was why constructive suggestions and inputs were still expected.

4. Discussion

Based on the preliminary investigatins, it showed that there were some problems in teaching learning of interger either in elementary schools or in elementary school teacher education study program. In PGSD study program there had not been integer material as the teaching-learning resources for students and lecturers. It was very necessary to establish the integer material especially for elementary school teacher study students. It was in accordance with Hagar (2006) had an opinion that “*The success of teaching and learning is also determined by the arranged material compromised among the teachers*”.

Teaching-learning material consisted of natural number, whole number, prime and composite number, and it was added by the greatest common divisor and the least common multiple. The last one was quadratic and square root number. From the validation result it showed that the material was good; it meant that the material could be used in teaching-learning both by the students and mathematics education lectures. It was in accordance with Bray (2007) who said that “*The teaching-learning material that has been validated by an expert validator is worth to be used by teachers and ready to be administered to students*”.

When expert validation followed by revision had already finished, the researcher

directly carried out field testing to elementary school teacher education students. The field testing was just the same as the usual lecturing or teaching-learning on the integer material. The following week, after the process of lecturing had already finished, the researcher directly distributed the anquet sheets to the students and they were asked to fill the questionnaires, give inputs and suggestions. Marry Hagen (2009) said that “*The construction of lecturing material in higher education would be better supported by students’ opinions and suggestions*”.

Students’ opinion expressed on the anquate sheets that teaching-learning material of integer were in a good category, it meant that the material could be used by the students. Besides, the students’ opinion about the integer material was good, worth, interesting, and the like, it could be concluded that the material was effective to be used by both students and lectures.

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GOVERNMENT OF WEST NUSA TENGGARA'S POLICIES IN ORDER TO ESCALATE FOREIGN INVESTMENT (2015 – 2016)

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Abstract

This article aims to describe policies formed by the Government of West Nusa Tenggara as a means to increase the foreign investment in West Nusa Tenggara. In recent years, West Nusa Tenggara's foreign investment tends to be in stagnation and did not reach its maximum level as shown in their past investment realizations. Yet in 2015, the investment realization of West Nusa Tenggara rose drastically and reached Rp. 9,9 billion in numbers. That number exceeded national target and West Nusa Tenggara's Regional Medium Term Development Plan (RMTDP) target of 2015. By using qualitative research method through interviews and library research to gather primary and secondary data, the writer did a deep analysis using agent and public policy theories as the main research tool. This research found that the West Nusa Tenggara Government have formed and executed several vital policies related to foreign investment in order to reform previous policies and maximize the foreign investment in West Nusa Tenggara by applying one door integrated service, accelerate the infrastructure development and giving incentive in the form of remission of retribution for tourism investment.

Keywords: foreign investment, regional government, regional autonomy, economic development, one – door integrated service.

1. Introduction

The province of West Nusa Tenggara has several potential commodities on many sectors such as tourism, mining, stockbreeding, farming, fishery, to industry. This is proven by massive number in regional production such as corn which reach 642.674 tons a year, 756.355 tons a year for seaweeds, 1.1 millions cows in unit, 0.38 tons a year for pearl production, and 35.000 tons a year for tobacco which filled 85% of the needs of virginia tobacco in Indonesia (Antara NTB, 2015). The province's regional potential and eminency play an important role in raising its economic development through the attempt to increase foreign investation (Business Environment, 2007). Since recent years, the province of West Nusa Tenggara has been trying to increase its investment climate significantly through domestic investment and foreign investment.

However, in spite of the significant raises in terms of investment since 2012, the increase is seemed to be stagnant and has not been able to fully maximize West Nusa Tenggara's regional potencies. In 2012, West Nusa Tenggara's investment realization only reached Rp. 1.7 trillions (BKPM PTSP NTB, 2013). While in 2013, investment realization reached Rp 4.91

trillions. And in 2014, the record reached Rp 6.22 trillions (BKPM PTSP Provinsi NTB, 2015). Many investor have shown their interests after noticing the big potential in West Nusa Tenggara, but couldn't do any investments due to various obstacles whether it's physically or procedural such as lack of road access and electricity (BKPM PTSP Provinsi NTB, 2016).

Meanwhile, in its development, surprising increase in investment realization happened in 2015 which reached Rp 9.99 trillions (BKPM PTSP Provinsi NTB, 2016). The rate of investment in 2015 increased to 60,53% and exceeded the original target which was only 8,4%. It even exceeded Indonesia's national target which targeted to reach Rp 6 trillions in numbers. Moreover, 2015 investment realization even exceeded West Nusa Tenggara's Regional Medium-Term Development Plan which targeted Rp 6.752 trillions (BKPM PTSP Provinsi NTB, 2016). These data is a prove that the government of West Nusa Tenggara have achieved a big accomplishment in terms of investment climate. In regards to that, this journal will elaborate the efforts made by West Nusa Tenggara government to increase foreign investment in 2015-2016. Furthermore, the writer will also provide deep analysis based on

agency and public policy theories in the discussion.

2. Method

The methods used to collect data are interviews and library research. In interviews, data researching is supported by recording technique, noting, and selection with data enhancement. Interview method is a technique to collect primary data from parties that act as research informan. The source of primary data of this research was the sub-section chief of the regional regulation draft from Law Bureau of the West Nusa Tenggara's Government and the sub-section chief of investment plans from West Nusa Tenggara's Government. Both of the informans are the person in charge whom directly involved to the West Nusa Tenggara efforts to increase its foreign investment. This research also used qualitative method which is based on literary and library research where the collected data is a secondary data that was taken from multiple sources such as: Scientific books or research results, documents or other media like journals, magazines, newspapers, internet and other relevant sources. This research used qualitative method with deductive technique based on multiple theories. Then the result of collective data and facts being used as the source to analyze the relation between theories and data systematically.

3. Results

Investment plays a key role that is needed by one region to improve its public welfare. As a key factor that is needed to accelerate economic development, regional government have always tried to increase the number of foreign investment through various means. In this case, the government of West Nusa Tenggara also made similar efforts through forming new rules to reform and evaluated previous regulation regarding foreign investment. Several improvement have been done in order to enlarge opportunities related to foreign investment.

Applying One Door Policy System

The government of West Nusa Tenggara have applied the one-door policy system in regards to process investment licenses through the governor's decree number 503-484 year 2015 on August 13th, 2015, that contains partial delegation of authority to the Head of The Investment Coordinating and Licensing Agencies of West Nusa Tenggara (Suaidi SE, 2017). The application of this system is a form of implementation of the President's Decree

number 97 year 2014 articles 10 paragraph 4 about the One-Door Policy system (Maga, 2013). With this One-Door Policy being applied, the process has become easier, quicker, transparent, and well organized because of all investment procedures are handled by one institution which is the Regional Capital Investment Coordinating Board (RCICB).

Under the rules of One-Door Policy, licensing that is handled by the RCICB covered two types of licenses which are capital investment licensing and non-licensing. The licensing type contain various sectors such as union, small and medium businesses, farms, environment, marine and fishery, forestry, mining, transportation, healthcare, land, tourism, regional development planning, trading, industrial, general affairs, plantation, and capital investment. And the non-licensing type is almost identical with the licensing type but excluded in union and small/medium businesses sectors (Jaringan Dokumentasi dan Informasi Produk Hukum Provinsi NTB, 2015).

Previously, all sectors that have been mentioned before were handled directly by the governor of West Nusa Tenggara. The governor then bestowed those sectors authority to related institutions in accordance with the type of investment being requested by the investor. All process are being handled by the various type of authority within the province until the license comes out. Because of that, the processes could take up three to four months due to the lack of cooperation between the institutions involved in the business (Suaidi SE, 2017). However, after the One-Door Policy is applied, all licensing processes are handled by a single institutions which is the RCICB of West Nusa Tenggara starting from the process of submitting an application until the license comes out. All of these process can only take up 3 hours. With this, the investor no longer needs to be involved in complicated administration processes that could waste a lot of time and the licensing processes becomes more efficient.

Accelerate Strategic Infrastructure Development

The next policy that is issued by the government of West Nusa Tenggara in order to improve foreign investment is accelerating the development of strategic road access. To accommodate this purpose, the government of West Nusa Tenggara issued a local regulation about the acceleration in developing a strategic road access with multi-year financing pattern as stated in Local Regulation number 9 year 2016. Multi-year financing pattern is a working

contract pattern or a program that ties the developing budget for more than one year budget. This also applied to the construction activities, making it last longer than one year. The funding source of this program is the regional budget of West Nusa Tenggara province. By these funding, Rp 650 billions are allocated to build twelve roads and eleven bridges in West Nusa Tenggara (Jaringan Dokumentasi dan Informasi Produk Hukum Provinsi NTB, 2016).

Road access, specifically, is one thing that is absolutely needed in order to support economic activities and mobilization of people. It is also considered as one important aspect by the investor before they decide to invest in some region. Therefore, this regulation is issued by the government of West Nusa Tenggara to maintain functionality of their programs (Hadijah SH.MH, 2017). In the region of West Nusa Tenggara, the length of national roads and provincial roads by the end of 2010 was recorded at the number of 2.474 km. Where the portion of national road was 632.17 km and the rest is provincial road. However, the data noted that road with well maintained facility was only 45.61% by the total road and length.

After the issuance of these local regulation, development of road building in West Nusa Tenggara showed a significant improvement. By 2012, roads that are categorized as well maintained improved to 916.50 km. At the end of 2014, the record of paved road reached 1.438 km. On the other hand, number of gravel roads is decreased over time. With the constant improvement of infrastructure quality and quantity in West Nusa Tenggara, the government expects to increase the interest of investors in the future (BPS Provinsi Nusa Tenggara Barat, 2016).

Provision of Local Tax Incentives and Regional Levies in Special Economic Zones of Mandalika

The next regulation that is issued by the government of West Nusa Tenggara in order to increase foreign investment is to give provision of local tax incentives and regional levies in special economic zones of Mandalika through local regulation number 8 year 2016. The goal of this regulation is to increase foreign investment through providing facilities and conveniences on local taxes and regional levies for businessmen in the special economic zones of Mandalika which is one of several zones planned by Indonesia's President, Joko Widodo (Hadijah SH.MH, 2017). The forms of facilities and conveniences that is provided in this regional

regulation are reduction, relief and waivers of local taxes and regional charges in the form of Motor Vehicle Tax (PKB), Motor Vehicle Title Fee (BBN KB), Surface Water Tax (PAP) and user charges on extension of Permit for Hiring Foreign Workers (IMTA).

For motor vehicle taxes, motor vehicle name and surface water taxes fees are subject to 50% reduction and waiver of local taxes on the determination of taxable principal and administrative sanctions. Then, BBN KB is also given tax exemption including exemption of principal and exemption from administrative sanctions (Jaringan Dokumentasi dan Informasi Produk Hukum Provinsi NTB, 2016). Then for regional levies, business entities in the Mandalika Special Economic Zone are granted relief on the extension of the permit to employ foreign workers. The nominal reduction given by West Nusa Tenggara government is 50% of the principal amount of levies owed and administrative sanctions. To obtain facilities and incentives for tax and retribution, business entities or entrepreneurs only need to apply the registration form to the Governor of NTB and complete the required terms. This request will be processed by the local government with the output in form of a decree from the proposed petition.

Provision of ease and relief of local taxes and levies is fairly very profitable for investors and business entities because of the varied incentives ease of taxes ranging from relief, reduction to exemption. Moreover, deductions may reach up to 50% of indebted taxes and administrative sanctions. Not only that, these tax facilities are valid for three years for investors or business entities who have applied to the Governor since the business operated. Although the government only give incentives in the minor tax types such as PKB, BBN KB, PPA and IMTA, but if we accumulated the total incentives from the economic side, this is a big advantage for investors who run businesses in the Special Economic Zone of Mandalika (Jaringan Dokumentasi dan Informasi Produk Hukum Provinsi NTB, 2016).

Establishment of a Pro Investment Policy Strategy

The next effort by the West Nusa Tenggara Provincial Government to increase foreign investment in West Nusa Tenggara is through the establishment of a pro-investment policy strategies like the Investment's Local Regulation number 3 year 2015. This investment regulation is the first written rule established by the West Nusa Tenggara Provincial Government related to

investment. Previously, the investment-related policy in West Nusa Tenggara was fully guided by National Law number 25 year 2007 without any local regulation in the region that regulates investment specifically (Hadijah SH.MH, 2017).

The investment regulation was formed on the basis of a number of considerations, namely as an effort to improve, regulate and protect investment in NTB through the establishment of regulations that provide guidance and legal certainty for investors who invest in the region. This will be applied through enhancing the role of local governments in preparing facilities and improving services to investment through easy, fast, accurate, integrated and sustainable licensing services. Broadly speaking, this investment regulation consists of 10 chapters and 40 articles covering general provisions, principles and objectives, scope, authority of local government, regional investment policy, community participation, incentives and ease of investment, administrative sanctions, transitions and closing conditions.

The first rules governing investment in West Nusa Tenggara in its development include a large number of scopes such as investment-related cooperation, promotional activities, investment services, investment implementation control, data management and investment information systems as well as dissemination and investment training in West Nusa Tenggara. This policy also covers all sectors of business in every investment sector in West Nusa Tenggara (NTB B. H., Jaringan Dokumentasi dan Informasi Produk Hukum Provinsi NTB, 2015).

Compared to previous years, new policies issued and implemented by local governments to increase foreign investment by 2015 are more firmer and have a permanent legal force with a range of various sectors and arrangements. This regulation lead to the capability to grant a legal certainty for business actors or business entities who invested in West Nusa Tenggara. In contrast, local government policies applied in previous years were more directed to appeals in the form of circular letters with limited regulatory coverage and without binding legal certainty.

4. Discussion

To study more deeply on this topic, the author uses two theories as the main unit of analysis which are public policy theory and the agency theory. According to Thomas R. Dye, public policy is interpreted as whatever government choose to do or not to do (Dye, 1984). While in Budi Winarno's book, citing

David Easton's thinking, views public policy as the authoritative allocation of value for the whole society, but it turns out that only the government can authoritatively act on the whole society, and everything the government choosed do or not to do result in the allocation of values (Winarno, 2008).

Definitively, public policy can be understood as a policy established by the government as part of a political decision to address issues that develop in society. In the current era of globalization, the dynamics of politics and the development of society also lead to the arise of more complex problems. The Government in this case is required to take decisions and policies carefully and promptly in its capacity as a decision-making authority to resolve the problems in the community. Public policy in this case is a decision and policy taken by the government in the framework of administration in order to overcome the problems that arise. If evaluated using public policy theory, the steps taken by the West Nusa Tenggara Provincial Government to increase foreign investment through a number of policies are important actions to be taken to address common issues that are occurring in the community.

Then the next theory, the agency theory, is definitively understood as a contractual relationship between principals and agents in which the principal party give mandates to the agent to perform all activities on behalf of the principal. Jensen and Meckling explain the agency relationship as agency relationship as a contract under which one or more person (the principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent (Jensen, Michael C., 1976). In detail, it is understood that in the agency theory, there is a contract whereby one or more principals ruling the agents, to carry out a policy on behalf of the principal. This action is then followed by authorizing the agents to make the best decision to achieve principal interests (Universitas Negeri Surakarta, 2012).

In this case, West Nusa Tenggara Provincial Government as an agent formed some policies to increase foreign investment in the region that needed to support economic growth and regional development for the benefit of the people who in this theory apply as principal. West Nusa Tenggara Provincial Government in this case has the capacity to take the decisions and policies necessary to meet the interests of the people. Through these efforts to increase investment, the government tried to create a better investment climate in West Nusa Tenggara

in order to improved the welfare and quality of life.

The government then established One-door integrated service as a form of reform and evaluation for the previous investment licensing policy that tend to be complicated and convoluted. Before the existence of integrated services, investment licensing procedures in West Nusa Tenggara even take a long time up to three to four months. Investment permit requirements also tend to be difficult for investors. This is caused by the lack of transparency and accountability of the licensing administration pattern in West Nusa Tenggara. In addition to spending a considerable time in terms of licensing, the cost incurred by the investor also counted quite a lot due to the absence of a standard rule that integrates all investment policies in West Nusa Tenggara. Therefore, as a form of evaluation to overcome this problem which is considered as a big stumbling block to increase the investment in West Nusa Tenggara, the regional government then issued the Governor Decree concerning the delegation of some of the Governor's authority to the Head of Regional Capital Investment Coordinating Board (RCICB).

Not enough just by reforming and reforming the investment licensing policy in West Nusa Tenggara, the government also trying to accelerate the development of infrastructure, especially the strategic road to increase the investment achievement. West Nusa Tenggara province in particular has a variety of potential areas that are very promising for the business world. But the limitations of strategic road access often become a stumbling block. In response to this problem, West Nusa Tenggara Provincial Government subsequently issued local regulation number 9 year 2016 which is a renewal of regulation number 9 year 2010 on the acceleration of strategic road infrastructure development with multi-year financing pattern. After conducting direct survey and research to a number of locations in West Nusa Tenggara, it can be found that the strategic road infrastructure in has increased significantly since 2010 to the present time. The previously remote areas now can be accessed easily and quickly due to the availability of many new roads interconnected with each other.

Then, to continue to attract investors to invest, local governments also apply regional regulation number 8 year 2016 which regulates the granting of local tax relief and levies in the special economic region of Mandalika. Through the establishment and enforcement of this rule, local governments seek to boost the investment

especially in tourism sector by providing various incentives for investors. In its development, to further strengthen the standard rules on investment policy in, the government then took a big step by forming regional regulations on investment through forming a local regulation number 3 year 2015 as a part of a pro-investment policy strategy. Through the establishment of this regulation, the local government seeks to improve the investment outcomes in West Nusa Tenggara by offering legal guarantee, assurance of protection and security guarantee for all investment activities in West Nusa Tenggara.

5. Conclusions

Government of West Nusa Tenggara Policies in order to escalate foreign investments are shown by various policies such as establishing and implementing a one-stop integrated service system, accelerating the development of strategic road infrastructures, providing incentives for local tax breaks and regional levies for investment in the Special Economic Zones of Mandalika and forming an investment law. By these actions, investment realization in West Nusa Tenggara tends to increase significantly year by year starting from 2015. In the future, the government will continue to evaluate all policies implemented to continue renewals so that the obstacles hindering the investment development in West Nusa Tenggara can be overcome.

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INVESTIGATING THE NEED OF INTERNATIONAL RELATIONS DEPARTMENT STUDENTS TOWARD SPEAKING MATERIALS IN UNIVERSITAS MUHAMMADIYAH YOGYAKARTA

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Abstract

The need of providing specific speaking materials for the students of international relations department has not received much attention in the teaching and learning process of English as a compulsory subject. Little has been done to investigate the actual need of the students of international relations department toward speaking materials in the teaching and learning process of English. To gain a deep understanding on the actual needs of the students of international relations department, multiple sources of data collected from a semi-structured interview, classroom observation, and questionnaires are employed. The findings of the current study reveal that (1) the students want a specially designed objective of speaking class that corresponds to their study program and future jobs (2) the students want to be able to speak English depending on the context they deal with; (3) the students want materials/activities that enable them to speak fluently using sufficient vocabulary, accurate grammar and correct pronunciation based on their study program and their future professions, (4) the students need various speaking activities and approach to make them develop their speaking better and (5) the existing book's layout needs to be improved. It can be concluded that there is a crucial need to develop speaking materials based on students' specific need and interest. It is expected that this exploration will be of beneficial contribution to English teachers working with EFL students in higher education context and the related institution to understand the importance of providing speaking materials that correspond to the students' specific needs. Moreover, it shows that revisions of the current speaking course seem to be necessary to provide more effective English language courses for students.

Keywords: need analysis, international relations department, speaking materials

1. Introduction

One of the objectives of higher education in the article 5 of Higher Education System Act Number 12/2012 states that university graduates are expected to be capable of using the knowledge/ technology to meet the nation's interest and improve the nation's competitiveness. In order to achieve the objective, English as one of the language skills is taught in nearly all higher education institutions in Indonesia.

Ideally, English teaching and learning process should be designed in such a way to make their students truly get everything related to the needs of their future professions. Thus, they can compete both locally and globally better. Among various factors that should be taken into consideration, materials are one of the most influencing factors in determining the success of students in learning a particular language. As stated by Dar (2012, p. 113), materials are vital funnel through which knowledge is transferred from the teachers to the learners, and such knowledge can only be

transferred effectively if the materials are appropriate to the needs of the learners.

The idea proposed by Dar (2012, p. 113) leads to a claim on the importance of providing students materials that are appropriate with their need. In this case, materials that can accommodate the need of a particular group of students belong to the area of English for Specific Purposes, in short ESP. This is in line with what is stated by Tsao, and Xu (2008, p. 1) in Rasekh & Simin (2011, p. 40). They state that as English continues to dominate in business, technology, media, education, medicine, and research, the demand for English for specific purposes (ESP) is rapidly growing to fulfill people with an instrumental purpose. In addition, Andriani (2013, p. 4) argues that teaching English in higher education should be directed to the specific purpose of a certain major. She adds that teaching of English for Specific Purpose is necessary in higher education due to the demand in academic setting or workplace later on.

Therefore, it can be clearly concluded that in order to make the students learn English more

effectively as an effort to meet their future professions' demand, materials that are used in the English teaching and learning process of higher education institutions should meet their needs. Seeing how English for specific purpose plays a significant role in creating students' success in using English in their future workplace, there's no doubt that a particular group of students having certain needs of learning English should be given English materials that contribute to their future career.

However, in Indonesia, there are still few instructional materials designed for specific purposes to enhance the English language proficiency of students and specifically aimed to meet their certain needs. Most of the time, the materials used in the teaching of English are general English materials. Those materials are believed by some scholars can't help the students to get deeper insight of the language appropriate with their major and their future career later on.

Those facts lead to an urgent call to provide students of higher education with particular needs and more appropriate English materials that are related to their field of study and ones that can truly help them in their specialty or their future working conditions.

The similar condition also happens in Universitas Muhamamdiyah Yogyakarta. This university focuses on preparing its students to go global as written in its tagline '*muda mendunia*' or young and global in English. To achieve this objective, English is taught as a compulsory subject in nearly all departments. International relations department is one of the departments in this university believed to be one of the majors closely related to English use. However, the speaking materials used are the general one. Therefore, investigating the actual need of international relation department students toward speaking materials should be conducted as a way to give a deeper insight on the students' actual need in speaking class.

2. Method

Need analysis is a study conducted to find the actual needs of students to learn English. This study will enable the teachers or the stakeholders to design materials that meet students' need. The participants of the research were the English teachers and the students of International Relations Department.

To investigate the need of international relations department students, semi-structured interview, classroom observation, and questionnaires were carried out. Firstly, the observation was used to observe the use of the

existing course book in the teaching and learning process of speaking. Secondly, the interview guideline was used to explore relevant information related to the existing English learning material and its usage in teaching and learning process of speaking in the international relations department. Finally, closed questionnaire was given to 27 students in order to get data from the students about the strengths and weaknesses of the existing course book and to know their needs toward speaking materials. The obtained data were then analyzed using data analysis proposed by Miles and Huberman (1992) in Novitasari (2014, p. 67), namely data reduction, data display and data verification.

3. Results

3.1. Results of teacher's interview

This interview is aimed to find out the general condition of the students' need and the materials used to teach speaking. In addition, it's used by the researcher to investigate whether the students majoring in International Relations Department need English speaking materials that corresponds to their study program and future-related jobs. Two English instructors/teachers teaching the students of International Relations Department were interviewed by the researcher.

This interview reveals that there is a need to develop supplementary speaking materials for the students of International Relations Department for some reasons: (1) the existing course book used to teach speaking is not sufficient yet since teachers need to find additional speaking materials for their teaching practices;(2) the book used to teach speaking lacks of input;(3) the book is not related to a specific study program and has not provided specific materials for the students of IR;(4) as stated by the teachers, it's important to provide specific materials for students having particular needs; and (5) the book has not covered all indicators of speaking.

3.2. Result of students' interview

The researcher conducted a semi-structured interview with the students. This interview is aimed to find out the students' perspectives toward their need and necessities as well as their perspectives on the condition of the existing speaking materials. The overall findings of the interview reveal that: (1) the students of international relations department want the objective of the speaking class corresponds to their study program;(2) the book used to teach speaking is not specifically designed to prepare

the students in their future jobs;(3) the students believe that it's important to study something that is related to their study program and future career;(4) as stated by the students, they want to be able to speak English depending on the context they deal with; and(5) the book's layout needs to be improved. Thus, there is a need to develop speaking materials based on students' specific need and interest.

3.3. Result of observation

Observation was conducted by the researcher to observe how the existing course book of speaking is used in the classroom. Some important aspects related to the implementation of "Free Conversation"-the existing course book-for teaching the students of international relations department. Ideally, the students of international relation department should be given materials that are specifically designed to accommodate their need and interest and help them use their English better in their future work places. However, the materials given to the students were not yet relevant to their study programs.

Based on the finding in the observation, there was no material specifically written for enabling the students to speak using correct grammar. In addition, ideally a course book should be equipped with sufficient vocabulary, but the existing vocabulary doesn't reflect the ideal condition. The vocabulary in the course book should be added, and contextualized to their majors.

3. 4. Result of questionnaires

To find out more information about the students' opinion toward the course book currently used to learn speaking, the researcher distributed questionnaire. It focused on the students' needs towards the English speaking materials as well as the weaknesses of the existing course book. There were five aspects in the questionnaire, namely objectives, input, Indicators of speaking skill, methodology, and organization. The results of the questionnaires are presented as follow.

Table 1: The result in the aspect of Objectives

Percentage	Finding
72%	The students really want the objective of the learning related to International Relations.
72%	The students really want to be taught using materials related to their field of study.
72%	The students need to be given materials related to their future careers.
72%	The students really prefer the speaking materials relevant to their future working conditions.

Table 2: The result in the aspect of input

Percentage	Finding
76%	The students need the language expressions that are relevant to their fields.
80%	The students really prefer the materials that are contextual.
76%	The students prefer to have pictures related to their major as the learning input.

Table 3: The result in the aspect of speaking skill

Percentage	Finding
76%	The vocabulary used in the book is not sufficient yet.
72%	The students need vocabulary that is relevant to their study program.
76%	The course book used for learning speaking has not provided the students materials on pronunciation.
80%	The students need to provide materials on grammar to make them speak more accurately.
68%	The activities have provided activities to make them speak accurately.
76%	The students need more activities related to their study program to enable them speak more fluently.
76%	The activities to develop students' fluency to speak based on their future careers are not yet sufficient.

Table 4: The result in the aspect of methodology

Percentage	Finding
76%	The approach of the speaking activities is monotonous.

Table 5: The result of the book's organization

Percentage	Finding
72%	The organization of the book needs to be improved.
72%	The organization has not been delivered in a well sequence.

The result of questionnaires reveals that in the aspect of objective, the students really prefer having learning objective that is relevant to their study program, and prefer to be taught using materials that are relevant to their study program. Second, in the aspect of input, it was found that the students need to be given language expressions that are relevant and contextual to their fields, and pictures that are related to their major as well. Third, in the aspect of indicator of speaking, the result reveals that the students want to have sufficient vocabulary focusing on their specific need, materials on how the English words are pronounced correctly, materials on grammar to make them speak English more accurately, materials/activities that enable them to speak fluently based on their study program, and materials/activities that enable the students to speak fluently based on their future professions. Fourth, in the aspect of methodology, the students need various speaking activities and approach to make them develop their speaking better. At last, in the aspect of organization, the students need well-organized book to make them use the book as well in order to speak English better.

4. Discussion

As stated by Hutchinson and Waters (1986, p. 58 & Richards, 2001, p. 60-61), questionnaires, interviews, observation, informal consultation with sponsor, teacher and student are used to analyze the students actual need in learning. Thus, in conducting the need analysis, the researcher employed observation, interview, and questionnaires to obtain data on the students' need toward speaking materials used to learn speaking.

Based on the preliminary observation, three main findings were obtained by the researcher.

Firstly, the materials used by the teachers to teach speaking were general materials. Secondly, there were few materials specifically written for enabling the students to speak English using correct grammar. Lastly, ideally a course book should be equipped with sufficient vocabulary, but the existing vocabulary doesn't reflect the ideal condition. Thus, it was important to give the students materials that are relevant to their study programs and related to their future professions that provide sufficient materials on grammar and vocabulary.

After doing the observation, the researcher interviewed two English instructors and some students. The interview with the English instructor reveals that that there is a need to develop supplementary speaking materials for the students of International Relations Department for some reasons: (1) the existing course book used to teach speaking is not sufficient yet since teachers need to find additional speaking materials for their teaching practices;(2) the book used to teach speaking lacks of input;(3) the book is not related to a specific study program and has not provided specific materials for the students of IR;(4) as stated by the teachers, it's important to provide specific materials for students having particular needs; and (5) the book has not covered all indicators of speaking.

On the other hand, the interview with the students of International Relation Department reveal that: (1) the students of IR want the objective of the speaking class corresponds to their study program;(2) the book used to teach speaking is not specifically designed to prepare the students in their future jobs;(3) the students believe that it's important to study something that is related to their study program and future career;(4) as stated by the students, they want to be able to speak English depending on the context they deal with; and(5) the book's layout needs to be improved. Thus, there is a need to develop speaking materials based on students' specific need and interest.

The last data of need analysis was obtained by distributing questionnaires to the students that include the aspects of objectives, input, the indicators of speaking, methodology, and organization. The result of questionnaires reveals that in the aspect of objective, the students really prefer having learning objective that is relevant to their study program, and prefer to be taught using materials that are relevant to their study program. Second, in the aspect of input, it was found that the students need to be given language expressions that are relevant and contextual to their fields, and pictures that are related to their

major as well. Third, in the aspect of indicator of speaking, the result reveals that the students want to have sufficient vocabulary focusing on their specific need, materials on how the English words are pronounced correctly, materials on grammar to make them speak English more accurately, materials/activities that enable them to speak fluently based on their study program, and materials/activities that enable the students to speak fluently based on their future professions. Fourth, in the aspect of methodology, the students need various speaking activities and approach to make them develop their speaking better. At last, in the aspect of organization, the students need well-organized book to make them use the book as well in order to speak English better.

Based on the findings in need analysis, it was found that speaking materials that specially designed based on the students' field of study and future professions as well as speaking materials that accommodate all indicators of speaking skill along with other related aspects including design, organization and etc need to be designed. Since it's based on certain needs of the students of International Relation Department, ESP would be the important basis in developing the materials. Strevens (1988) in Rasekh & Simin (2011) describes ESP as English language teaching that is designed to meet the specified needs of a learner in which ESP students are usually adults who already have some

background knowledge with English and are learning the language in order to communicate a set of professional skills and to perform particular job-related functions

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THE INFLUENCE OF LEARNING COMMUNICATION TOWARD STUDENTS' MOTIVATION LEARNING ON PRODUCTIVE OFFICE ADMINISTRATION COURSE IN SMK BINA WISATA LEMBANG

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Abstract

Students' motivation learning is assessed very important for learning process. The background of this research is the level of students' motivation learning in SMK Bina Wisata Lembang is less optimal. One of factors which influences students' motivation is learning communication which is effective. This research aims to find the effectiveness of communication in learning and the level of students' motivation communication in learning and also the effects of that. This research uses descriptive and verifikatif methods. Population in this research are 43 students of office administration in SMK Bina Wisata Lembang as the subjects. Analisis technique that is used in this research is simple regression test. The result of present research shows that learning communication has positive effects and significant of 37,22% toward students' motivation learning in SMK Bina Wisata Lembang.

Keywords: Learning Communication, Students' Learning Motivation

1. Introduction

One of the problems encountered in the process of learning that students' motivation to learn where motivation can improve the quality of education. Good quality education can be achieved by the faculty that is able to do their job properly, but unfortunately the problem of low communication teacher in delivering information learning materials to students in the learning process almost unnoticed at this time so that the result of the students' motivation is not good.

Ecless, et al. (Hattip, 1997, p 2) concluded on student motivation, as follows: 1) lack of interest in school, 2) the lack of motivation of academic self-concept, 3) and its self-perception, 4) easy to degrade sara believe him after a failure, 5) failure to respond to *helplessness*, 6) easily skipped.

Motivation to learn is one of the problems of learning in students. A strong motivation in the students themselves will increase the interest, willingness and enthusiasm high learning. Motivation is important in learning peoses, with the motivation of these students be diligent in teaching and learning, and with the motivation was also the quality of student learning outcomes can be realized well.

Motivation to learn is influenced by several factors, both from within the students as well as from outside the student. Environmental changes that occur may result in students' motivation to

change. Another factor which is bound to reduce the motivation to learn is the subject matter itself and the teachers who deliver the subject matter. Students complained about the delivery of content by teachers as being boring, too difficult, there is no benefit to daily life - today, too much material for a limited time (Sarwono, 2007, p.125).

According to GR Terry in J Smith (2003, p 130) Motivation can be defined as an effort for someone to finish the job with passion because there are goals to be achieved. Motivation to learn has some of the indicators proposed by Wena (2010, p 33), namely: enthusiasm in learning, interest or attention on learning, engagement in learning, curiosity in learning content, perseverance in learning, always trying to try and actively cope challenges that exist in learning.

Table 1.1 Subjects Productive Value AP

Year	The Value Of Student		The Number of Student	The Percentage Learning completeness (%)	
	< 70	> 70		Remedial	No Remedial
2010	18	13	31	58	42
2011	15	16	31	48	52
2012	27	13	40	68	33
2013	24	16	40	60	40
2014	30	13	43	70	30

Source: List Values Administration Master Class X AP SMK Bina Wisata Lembang Odd Semester year 2010-1014

Based on the observed aspects of the year 2010 - 2014 the data obtained in 2010, students who take remedial as much as 58% in 2011 students who take remedial decreased about 48%, in 2012 students who take remedial

increased by approximately 20%, and in 2013 has decreased by about 8% and in the last year rebound about 10% of students who take remedial.

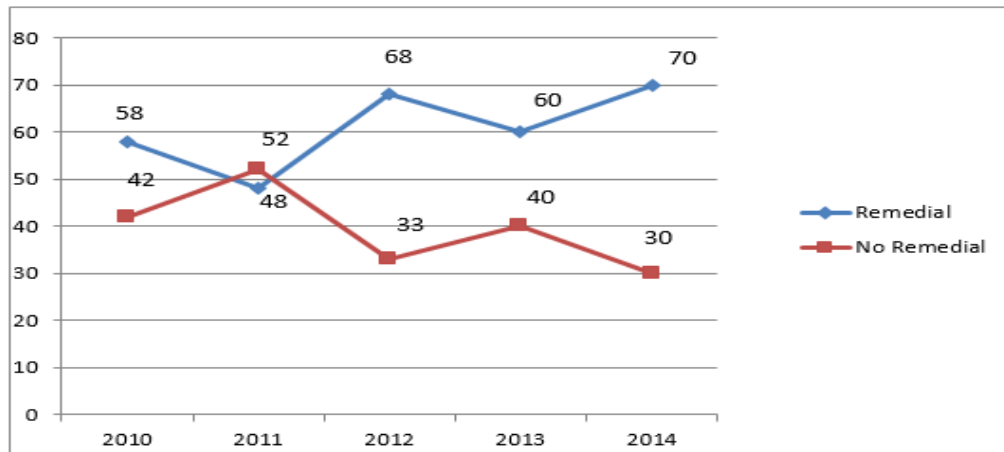


Figure 1.1 Graph Earning Results The AP Administrative Class X Odd Semester 2010-2014

Based on the previous graph it can be seen that the level results for students at SMK Bina Wisata Lembang quite volatile meaning was raising and decreasing every year. In 2010 students who take remedial increased by around 58% with the number of students of about 31 students and in 2011 has decreased by about 6% to become 52% of students who take remedial by the number of students is the same as the previous year. Then in 2012 students who take remedial approximately 68% with the number of students increased by about 40 students and in 2013 students who take remedial decreased 8%, so that students who take remedial approximately 60%. In 2014 has increased from about 10% so that students who take remedial approximately 70% with the number of students of about 43 students. Through these data can indicate that the Bina Wisata of vocational students have learning motivation level is still low.

To know directly the students' motivation in school, researchers conducted field observations are at SMK Bina Wisata Lembang. The results of the field observations the author had various problems such as the learning process found many who were less than enthusiastic about the learning process, the lack of activity of students in learning, many students who are outside the classroom during school hours take place, the classroom atmosphere rowdy during the learning process, many students come late to class. Another issue I have found in the field to the gap between teachers and students, this happens because of a lack of good communication and communication methods used by teachers

teaching less suited to the school environment. Based on these aspects, the authors assume that the problems occurred mangakibatkan low level of motivation for students at SMK Bina Wisata Lembang.

The author conducted observations at SMK Bina Wisata Lembang to see aspects that represent students in schools, including: (a) the student motivation in learning activities is low, (b) learning is still dominated by the teacher (teacher center), (c) students less pay attention to the teacher's explanation and tend to chat with friends, (d) the language used by teachers tend to default. The characteristics of students with low motivation, among others, (a) rapid desperate in the face of adversity, (b) are not eager to follow the lessons, (c) is not active in the learning process, (d) crowded with friends when the teacher presenting the material, (e) is not happy with routine tasks, (f) can not maintain his opinion. Based on these aspects of the data obtained a few students who still do not have compatibility with the criteria of students' motivation in school. There are aspects that have not been fulfilled, namely, (a) the students' motivation should be enhanced in the learning process. (b) in the learning process of a teacher must provide the opportunity for students in gave the opinion that the learning process is not dominated by any teacher. (c) if the learning process there are still students who pay less attention to the task of a teacher is to give a warning to students. (d) use learning methods that require students to be more active bertindak. (e) use the language that is easily understood by

students, so the students. Thus the authors assume that the level of student motivation in SMK Bina Wisata Lembang still low so important to know the factors that can affect motivation.

According to Pace and Don F. Faules in Mulyana (2001, p. 158) "communication climate can be one of the most important factors in the productivity of the organization, because of one's understanding of the communication climate will result in motivation to work". Communication in principle be done to find a consensus as win-win solution to the various problems (Aziz, 2012).

The learning process is essentially a process of communication, the process of delivering a message from a source of the message through the channel/ particular medium to the message recipient (Pontoh, 2013). As a reciprocal good communication skills, students as learners should have good communication skills to teachers. Communicative interactions like these that will bring the convenience of students and have a positive impact in following the teaching and learning activities in schools (Rozaq, 2012: 2)

Learn the science of communication to the context of learning in educational activities are very important for effective learning to some extent will depend on effective communication. Good communication between people who membelajarkan with people who study provides good learning motivation and therefore contributes to good learning outcomes as well. Poor communication will lead to poor motivation to learn.

The opportunity to communicate actually started by teachers in teaching, seen from the discussions and question and answer that is often done in class. However, the expected communication skills yet developed in learning. Students tend to communicate less interactive, less use of technology, less assertive and effective in the delivery of the message or information. The communication skills are necessary to achieve success in learning. With communication skills, students will easily communicate the various matters relating to learning materials, both orally and in writing. Students who do not communicate well skilled in learning activities can cause learning outcomes gained less than the maximum (Dipalaya, Susilo, and Duran Corebima, 2016). This is in line with research Maryanti, et al (2012) which states that there is a significant relationship between communication skills with students' learning activity.

The purpose of this study is to describe the communication effectiveness of learning, student motivation level and to determine whether there

is influence of communication influence learning on students' motivation in SMK Bina Wisata Lembang

2. Methodology

This research uses survey research methods, descriptive and verification, in order to obtain an overview of the communication effectiveness of learning (including respect, empathy, can be heard, quite vague, humble) is supported by observations of student activity and student questionnaire responses on motivation to learn students on the subject matter productive office administration. Of these variables is seen is whether there is influence between learning communication variables (X) on the students motivation (Y).

In this study a questionnaire is a tool (instrument) primary data collection. Questionnaire or research instruments must first be tested and consists of instructional communication variables (X) and the students' motivation variable (Y).

The survey was conducted by using a questionnaire. Questionnaire that contains a list of questions from the variables X and Y were distributed to 22 students in grade 21 student class X1 and X2 at the same time. Each student received a questionnaire, once completed filled reassembled.

Testing activities of research instruments include two things, namely the validity and reliability testing. Testing the validity and reliability is extremely important for maximizing the quality of the measuring instrument, so that errors can be minimized. Testing the feasibility of these instruments is done through the analysis of reliability and validity. Data collection instrument is feasible if it meets the requirements valid and reliable.

The purpose of data analysis is to describe the data and make the induction or draw conclusions about the characteristics of the population. Data analysis techniques used in this research is descriptive data analysis techniques and inferential data analysis techniques.

3. Results

Description of Communication Learning (Variable X)

Variable communication learning in this study was measured using five indicators of indicators Respect, Empathy, Audible, Clarity, and Humble. These five indicators are broken down into 17 statements taken as a measure of learning communication variables, based on a calculation of 43 respondents.

Recapitulation of the above scoring more clearly illustrated in the following graph:

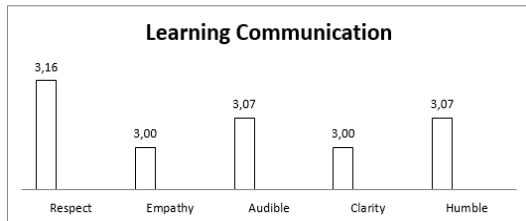


Figure 3.1 Respondents to the Communication Variables Pembelajaran

Based on the score of the above it can be concluded "Overview of learning communication effectiveness as described in the table and diagram above shows that by 36.0% with frequency Score 262 average - average 3.06. If dihubunngkan with scale interpretation in table 4.1, these figures are in the range of scores from 2.82 to 3.72 in the category quite effective. Thus it is empirically known that the effectiveness of learning in vocational communication Lembang Travel Bina is quite effective.

Description Variable Student Motivation (Variable Y)

Variable student motivation in this study was measured using six indicators of indicators enthusiasm, interest in learning, involvement in activities in class, curiosity in learning content, perseverance in learning, always trying. Six indicators are broken down into 16 statements taken as a measure of students' motivation variable.

Recapitulation of the above scoring more clearly illustrated in the following graph:

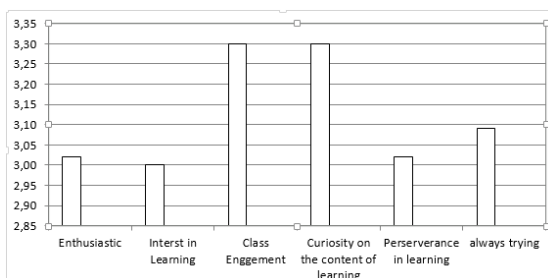


Figure 3.2 Respondents to the Student Motivation Variables

The graph above shows that the average total of 3.11. When converted to a scale of interpretation in Table 4.1 of recapitulation score criterion, the figure is in the range 3.00 to 3.99 or are in the category of High enough. This shows that student motivation is perceived quite high.

Test requirements for data analysis hypothesis test including normality test, homogeneity, and linearity test.

Homogeneity Test

Table 3.2 Summary of Homogeneity

No.	Variable	χ^2 (chi count)	χ^2 (chi table)	Conclusion
1.	Learning Communication	0,0699	9,4877	Data is Distributed Homogeneous
2.	Student Motivation	0,0120	12,5916	Data is Distributed Homogeneous

Source: data processing

Linearity Test

Calculation result that has been done can be concluded that the X and Y the linearity test obtained F_{count} equal to 0.7418 with $RJK_{\text{value}_{\text{reg(a)}}}$ of 79765.2093. $RJK_{\text{value}_{\text{reg(b/a)}}$ of 1693.140231. $RJK_{\text{value}_{\text{ic}}}$ at 386,749.9317. RJK_{Rated_E} for 521,395.8058. The value of F_{table} at significant level of 95% or 5% and $db \alpha TC = k - 2 = 22 - 2 = 20$ and $db E = n - k = 43 - 22 = 21$ is $F_{(0.05)(20)(31)} = 1.9196$. Thus the value of $F_{\text{arithmetic}} < F_{\text{table}}$ (0.7418 < 1.9196). These results indicate the variable x (communication learning) on the variable y (the students' motivation) is linear.

Normality Test

Table 3.1 Summary of Normality Test Results

No.	Variable	D_{count}	D_{table}	Conclusion
1.	Learning Communication	0,1669	0,1772	Data is Normally Distributed
2.	Student Motivation	0,1336	0,1772	Data is Normally Distributed

Source: data processing

4. Discussion

Based on the calculation above, that proved to communication learning has a significant impact on students' motivation. It will be explained and described as follows:

Analysis of Communication Learning SMK Bina Wisata Lembang

Data obtained by processing the picture that the rate the category of learning in vocational communication in SMK Bina Wisata Lembang quite effective. This is evidenced by the results of calculation of the percentage frequency questionnaire answers.

The calculation result obtained on the basis of the answers to questionnaires regarding the learning of communication in which there are indicators about teaching communication can be illustrated in the diagram below, namely:

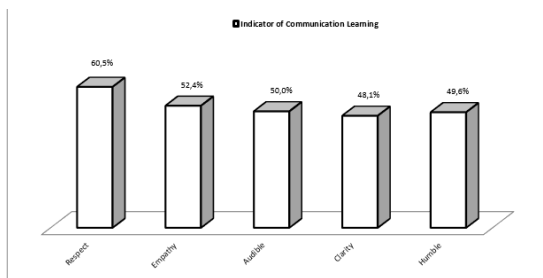


Figure 4.1 Summary of Calculation of Variable Data Communication Learning.

Based on the data obtained by researchers in the field can be described that for the perception of the minimum sufficient answer scores are at a clear indicator (clarity) with a score of 48.1% and a maximum score enough answers are in the indicator respect (respect) with a score of 60.5%.

Analysis of Student Motivation in SMK Bina Wisata Lembang

Empirically students' motivation level in SMK Bina Wisata Lembang is at a fairly high level. It is based on the calculation of the percentage frequency of 43 respondents answer by 46% which is quite high in the category.

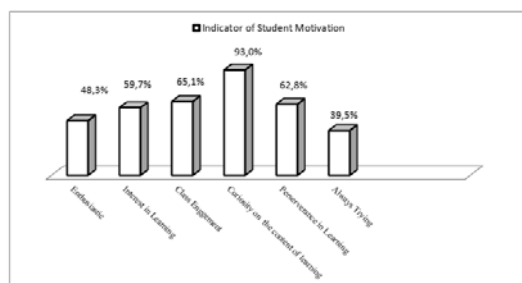


Figure 4.2 Summary of Variable Data Calculation Student Motivation.

Based on the data obtained by researchers in the field can be described that to score a minimum sufficient answer categories that are in the Active indicator in Always try with a percentage of 39.5% and the percentage of the maximum response sufficient category currently on indicators curiosity in learning content with a percentage of 93.0%.

Learning Communication Influence Analysis Of Student Motivation.

Based on the theory of experts concluded that learning communication is essential in order to achieve a sense of learning and students are expected to receive the information provided by

the teacher so well that two-way communication can be established.

In order to provide maximum learning outcomes that students need motivation to learn arising from within him that will affect the spirit of learning thereby increasing the sense of spirit to achieve better results. Therefore, in creating a learning motivation to learn is affected communication. With the clear communication of learning in the delivery of its meaning and can effectively improve students' motivation.

Based on the calculation results of research is simple regression between the variables of learning communication on motivation to learn then obtained a regression equation $Y = 16.329 + 0.647X$. This equation implies that if the variable learning effective communication, the level of students' motivation high. from the regression model are obtained (a) of 16.329 means the direction of positive regression shows the relationship between independent variables and the dependent variable goes in one direction, whereby any increase or decrease in the independent variable (communication learning) will be followed by an increase / decrease in the dependent variable (the students' motivation).

5. Conclusion

The results showed the influence of the communication effectiveness of learning can increase students' motivation. Learning communication at SMK Bina Wisata Lembang, which consists of five indicators, namely: 1) Respect, Empathy, 3) Audible, 4) Clarity and 5) Humble. Motivation for students at SMK Bina Wisata Lembang, as measured by the 6 indicators, namely: 1) Enthusiasm; 2) The interest in learning; 3) Involvement in class activities; 4) Perseverance in learning; 5) curiosity in learning content; and 6) Always try.

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STUDY OF RATIO PUBLIC JUNIOR HIGH SCHOOL TEACHERS AT HULU SUNGAI SELATAN REGENCY AS EFFORTS TO PROVIDE BASIC DATA

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Abstract

We have researched to identify of ratio public junior high school teachers at Hulu Sungai Selatan (HSS) regency as efforts to provide basic data. Focus of the research is the teachers whom teach in 10 major course on junior high school that is Religion Education, Civic Education, Indonesian Language, English Language, Mathematics, Natural Science, Sosial Science, Physical Education Sport and Health, Art and Culture, and Guidance and Counseling. The type of this research is a survey. Population and sample of this research are all teachers in public junior high school who teach in 10 major subjects at HSS regency. The technique of collecting data used observation, questionnaire, and interview. The result show that: (1) there are 68% of all schools are overage teachers in Mathematics course, 60% of all schools are overage teachers in Natural Science course, 44% of all schools are overage teachers in Indonesian Language course and Social Science course, and 32% of all schools are overage teachers in English Language course; (2) there are ideal teachers off all schools in Religion Education course, Civic Education course, and Physical Education Sport and Health course. (3) there are 84% of all schools are less teachers in Art and Culture course, and 36% of all schools are less teachers in Guidance and Counseling course; (4) the distribution of public junior high school teachers at HSS regency are uneven.

Keywords: rasio of teachers, junior high school, Hulu Sungai Selatan regency

1. Introduction

Teaching is a changing profession and, therefore, the work of teachers has been profoundly affected over the years. Intensification and bureaucratisation, increased forms of managerialism, and greater accountability and public scrutiny are but a few examples of the most recent changes [1]. The terrain of teacher professionalism is highly contested, particularly within the context of industrial negotiations between teachers and employers. It would seem, however, that teachers and employers are not the only stakeholders in the struggle over teacher professionalism, but that governments, teacher unions, parent and community groups and universities all play significant roles [2]. Issues of teacher professionalism and teacher professional identity are now evident in much research literature emerging from the USA, UK and Australia. Recent education reforms and the asociated changes in working conditions and professional expectations have meant that issues of teacher professionalism and profesional identity are being contested at both the level of policy and of practice [3]. The issue of professionalism of teachers also occurred in Indonesia, with the

enactment of Law No.14 of 2005 on Teachers and Lecturers. The law defines teachers as professional educators with the primary task of educating, teaching, guiding, directing, training, assessing, and evaluating learners[4].

Firestone [5] claims that 'professionalism' is bound up in the discursive dynamics of professionals attempting to address or redress the dilemmas of the job within particular cultures. Boyt, et.al. [6] claims that professionalism consists of the attitudes and behavior one possesses toward one's profession. It is an attitudinal and behavioral orientation that individuals possess toward their occupations'. Recognizing teaching as a profession and developing professional teachers has also been set forth as a possible solution. If teachers are to be empowered and exalted as professionals, then like other professionals, teachers must have the freedom to prescribe the best treatment for their students as doctors/lawyers do for their patients/clients [7]; Kartowagiran [8] states that teachers are professional educators, so that in carrying out their duties teachers apply skills, skills that meet the quality standards or certain norms obtained through professional education.

The professionalism of a teacher has an impact on the quality of education. One of the

factors that influence the professionalism of teachers is the ratio and uneven distribution of teachers in schools. Head of the Human Resources Development and Quality Assurance Agency Syawal Gultom [9] said that the ratio of teachers to the number of learners in Indonesia is around 1:18. The ratio is better than Korea (1:30), or Germany (1:20). However, it is not balanced with a good distribution system. Based on a preliminary survey conducted by researchers at several public junior high school in HSS Regency indicated that there was an excess ratio of teachers on certain subjects and the distribution was uneven.

Such conditions need to be considered by the Department of Education and the Regional Employment Board especially in the placement of new teachers or mutation to avoid excess and shortage of teachers in schools. It is very important to note, especially to meet the requirements for eligibility and obtain teacher certification requires a number of teaching hours is large enough that 24 hours per week. This is a factor that determines the success of the development efforts of professionalism and education. Based on this, it is necessary to conduct a comprehensive study on teachers of public junior high school in HSS regency. It is expected to obtain complete and accurate data about the ratio and distribution of teachers in each school for the provision of basic data so that it can be used as a basis for teacher placement policy making.

2. Method

The type of this research is a survey. According to Sudman, et.al [10] a "survey" is a systematic method for gathering information from (a sample of) entities for the purposes of constructing quantitative descriptors of the

attributes of the large population of which entities are members.

This research was conducted in 25 SMPN in Hulu Sungai Selatan Regency. Population and sample of research are all teachers who teaches 10 major course on junior high school that is Religion Education, Civic Education, Indonesian Language, English Language, Mathematics, Natural Science, Sosial Science, Physical Education Sport and Health, Art and Culture, and Guidance and Counseling.

Data were collected through observation, interviews, questionnaires, and documentation. Data analysis in this study used quantitative descriptive. According to McMillan [11] the descriptive study simply describes a phenomenon. The description is usually in the form of statistics such as frequencies or percentages, averages, and sometimes variability.

3. Results

Teacher ratios were analyzed based on the needs and availability of public junior high school teachers in HSS District in terms of the subjects and curriculum that are applicable: Education Level Curriculum (KTSP) and Curriculum 2013. This study focuses on the ratio of teachers to the main 10 major course, namely: Religion Education, Civic Education, Indonesian Language, English Language, Mathematics, Natural Science, Sosial Science, Physical Education Sport and Health, Art and Culture, and Guidance and Counseling. Table 1 shows 12% of all schools are overage teachers, 80% of all schools are ideal teachers, and 8% of all schools are less teachers in religion education. This indicates that Religion Education teachers in HSS regency are in ideal, but not evenly distributed.

Table 1. Ratio of Religion Education teachers

No	Category	Number of school	Percentage (%)
1	Overage teachers	3	12
2	Ideal teachers	20	80
3	Less teachers	2	8

Table 2 shows 12% of all schools are overage teachers, 64% of all schools are ideal teachers, and 24% of all schools are less teachers

in Civic Education. This shows that Civic Education teachers in HSS regency are in ideal condition but not evenly distributed.

Table 2. Ratio of Civic Education teachers

No	Category	Number of School	Percentage (%)
1	Overless teachers	3	12
2	Ideal teachers	16	64
3	Less teachers	6	24

Table 3 shows 44% of all schools are overage teachers, 32% of all schools are ideal teachers, and 24% of all schools are less teachers

in Indonesian Language. This shows that Indonesian Language teachers in HSS District are overless and also the distribution is uneven.

Table 3. Ratio of Indonesia Language teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	11	44
2	Ideal teachers	8	32
3	Less teachers	6	24

Table 4 shows 68% of all schools are overage teachers, 24% of all schools are ideal teachers, and 8% of all schools are less

Mathematics teachers. This shows that the Mathematics teachers in HSS Regency also overless teachers and uneven distribution.

Table 4. Rasio of Mathematics teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	17	68
2	Ideal teachers	6	24
3	Less teachers	2	8

Table 5 shows 60% of all schools are overage teachers, 32% of all schools are ideal teachers, and 8% of all schools are less Natural

Science teachers. This shows that Natural Science teachers in HSS regency are also overless teachers and uneven distribution.

Tabel 5. Ratio of Natural Science teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	15	60
2	Ideal teachers	8	32
3	Less teachers	2	8

Table 6 indicates that 44% of all schools are overage teachers, 48% of all schools are ideal teachers, and 8% of all schools are less Social

Science teachers. This shows that Social Science teachers in HSS Regency also overless and uneven distribution

Table 6. Ratio of Social Sciences teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	11	44
2	Ideal teachers	12	48
3	Less teachers	2	8

Table 7 shows 32% of all schools are overless teachers, 52% of all schools are ideal teachers, and 16% of all schools are less English

Language teachers. This shows that English Language teachers in HSS Regency also overless and uneven distribution

Table 7. Ratio of English Language teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	8	32
2	Ideal teachers	13	52
3	Less teachers	4	16

Table 8 shows 0% of all schools are overless teachers, 16% of all schools are ideal teachers, and 84% of all schools are less Arts and

Culture teachers. This shows that Arts and Culture teachers in HSS District are less.

Table 8. Rasio of Art and Culture teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	0	0
2	Ideal teachers	4	16
3	Less teachers	21	84

Table 9 shows 4% of all schools are overless teachers, 68% of all schools are ideal teachers, and 28% of all schools are less of teachers in Physical Education, Sport, and

Health. This shows that teachers of Physical Education, Sport and Health in HSS regency are in ideal conditions but the distribution is uneven.

Table 9. Rasio of Physical Education, Sport and Health teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	1	4
2	Ideal teachers	17	68
3	Less teachers	7	28

Table 10 shows 20% of all schools are overless teachers, 44% of all schools are ideal teachers, and 36% of all schools are less

Guidance and Counseling teachers. This indicates a less of Guidance and Counseling teachers in HSS Regency.

Tabel 10. Ratio of Guidance and Counseling teachers

No	Category	Number of school	Percentage (%)
1	Overless teachers	5	20
2	Ideal teachers	11	44
3	Less teachers	9	36

4. Discussion

Research in Hulu Sungai Selatan shows the ratio of teachers in course of Mathematics, Natural Science, Indonesian Language, Social Science, and English language is overless, the ratio of teachers in Religion Education, Civics and Physichal Education, Sport and Health is ideal and rasio of teachers Arts and Culture and Guidance and Counseling is less. The results of this study also show the teacher distribution is uneven. In general schools in rural and remote areas lack teachers, while schools in regency capitals have more teachers. In addition, more qualified and experienced teachers are generally concentrated in the regency capital. Uneven distribution of teachers exacerbates inefficiencies and strengthens the pattern of imbalances. The cause of uneven distribution of teachers is that teachers are reluctant to teach in remote environments. This is influenced by several factors, among others: the availability of adequate shelter, schools for the children's own

teachers, and the challenge of living in unknown areas. As a result, remote areas usually have a number of teachers who are less than the amount needed and have teachers whose qualifications are lower than teachers in urban areas.

Various policies were made by the Government to improve teacher distribution. One of the Government introduced a remote area allowance in 2007 to encourage teachers to be willing to teach in remote areas. These incentives are likely to improve teacher performance. A study conducted in Papua [12] found that teachers absenteeism that received incentives for teaching in remote areas was lower than teachers who did not receive incentives. The results also suggest that such incentives need to be strengthened to maximize their impact on teacher distribution.

In addition, the distribution of teachers is regulated through a letter of mutual agreement signed between October 2011 between The Ministry of Education and Culture, the Ministry of State Apparatus Empowerment and

Bureaucratic Reform, and the Ministry of Home Affairs. These measures were taken to overcome the dilemma to solve the problem of distribution of teachers [9] In the implementation of the distribution of teachers through a letter mutual agreement has constraints. The letter mutual agreement often collide with Law Number 32 Year 2004 regarding regional Government. According to Siswintari [13] the decentralization of education resulted in regional euphoria and tends to politicize education resulting in central government difficulties in controlling the quality of education.

Through various policies implemented by the Government, it is expected that the problem of teacher distribution can be overcome. According to Daya [14], teachers in Portugal and in England are experiencing recent changes in the policy environment which have affected their sense. Improving the distribution of public junior high school in Hulu Sungai Selatan requires strengthening mechanisms to regulate the resettlement. This is done so that no junior high school teacher strengths and weaknesses, so as to improve the professionalism of teachers. Increasing the professionalism of teachers will have an impact on the quality of education in Hulu Sungai Selatan regency. Linda [15] states professional development is a key process within the wider agenda of raising standards and increasing societal growth capacity by improving policy and practice in all areas of public service provision, not least education. This is also in line with the World Bank report [12] making the distribution of teachers more equitable by ensuring that poor and remote schools have a balanced percentage of qualified and experienced teachers can improve overall learning outcomes and minimize learning disparities.

5. Conclusion and Suggestion

Base on the research, we can make some conclusions as follows: (1) there are 68% of all schools are overage teacher in Mathematics course, 60% of all schools are overage teacher in Natural Science course, 44% of all schools are overage teacher in Indonesian Language course and Social Science course, and 32% of all schools are overage teacher in English Language course; (2) there are ideal teacher off all schools in Religion Education course, Civic Education course, and Physical Education Sport and Health course; (3) there are 84% of all schools are less teacher in Art and Culture course, and 36% of all schools are less teacher in Guidance and Counseling course; (4) the distribution of public

junior high school teachers at HSS regency are uneven

Base on the results obtained in this study suggested the following matters: (1) improving the recruitment and placement of teachers according to the letter of mutual agreement of five ministers; (2) increasing incentives for teacher placement in remote areas; (3) review opportunities to incorporate schools adjacent to low student enrollment rates.

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CARING FOR STUDENTS' HEART: HOW SOME TEACHERS BEHAVE WHEN THEIR STUDENTS ARE ANGRY AND FEEL DISSATISFIED WITH THEM

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Abstract

Students' learning success is not only dependent on how they think, but also how they feel. Students' positive affection can enhance their learning outcomes, while negative emotion can significantly affect their learning motivation, reduce energy to learn, even stimulate stress. This indicates that teachers should not only build their students' cognition, but also their affection. Students' positive affection can be enhanced through harmonious teacher-student relationship. This relationship can be disturbed when teachers or students feel upset or dissatisfied with other party's behavior or decision. Students' anger and dissatisfaction can burn teachers' emotion and may potentially destroy harmonious relationship with their teachers. Thus, it is significant for teachers to manage and respond to their students' anger and feeling of dissatisfaction wisely. This study is focused on students' anger and feeling of dissatisfaction towards their teachers' (grading) conduct and how teachers manage this situation. It is a qualitative-phenomenological study which explores our relational experiences with our students. Thus, it is a self-experienced study. Some open ended questions are used as our research instruments to express our direct experiences. The data show that conflict and tension between teachers and students stimulate teachers' caring behaviors. These tensions can be tools for teachers to educate/implant positive social and emotional characters and values, including honesty, politeness, humbleness and respect, not only for their students, but also for teachers own selves. The teachers perform self and social emotion regulation in which they are not only controlling their emotion, but also their students' emotion. The teachers are also aware that restoring their relationship with their students is significant for both teachers' and students' wellbeing. This study shows that students' and teachers' learning excellence is not only affected by content-material development, but also teachers' capacity to perform situated learning from their social environment and care for students' emotion.

Keywords: teacher-student relationship, students' dissatisfaction, teacher and student well-being, learning motivation, students' emotion, relational experiences

1. Introduction

Students' academic excellence is the combination of multifaceted elements. It is not only determined by their cognitive capacity, but also their social and emotional capacities. Many cases in academic settings show that it is possible that bright and high intelligent students fail to adapt to their social environment or unsuccessful to manage their negative emotion. These incapacities may result in various learning problems, such as failure to cooperate with others and learn from other people, unsuccessful effort to restore motivation from negative emotional experiences. This indicates that social and emotional management is significant to support students' learning.

Social and emotional learning is required during their learning experiences. This indicates that it is expected that during their learning process, students are not only concentrating on

their difficult task or quiz, but also learning implicit emotional and social content/element from their experiences. These emotional and social learning can be stimulated from their daily/everyday learning situation. Successful social and emotional learning can enhance their learning character which can be invaluable asset for their future learning. One of some common social and emotional learning experiences which students frequently encounter is feeling of anger, resentment or any emotional dissatisfaction with their teachers' behaviour, policies and decision. For instance, students can be angry or dissatisfied with their teachers' grading behaviour or decision. This experience can bring significant impact for students if it is not managed properly. It can decrease students' motivation to learn, increase academic stress and apathy, and stimulate students' unworthy sense. Moreover, it can endanger harmonious relationship between teachers and students. Thus, it is becoming a big

challenge for teachers to behave positively to respond their students' anger and associated feelings of dissatisfaction.

Teachers perform multiple roles in both their students and their own learning process. They are not only obliged to deliver materials, but also facilitate their students to learn. This indicates that teachers should guide their students to be conscious of students' own learning and be able to improve their own learning through self-knowledge exploration. Teachers are not only obliged to support their students' cognitive-knowledge learning, but also social-emotional learning which is frequently processed through direct experience. This indicates that teachers have a role to support and facilitate students' learning from experiences which can contribute for their learning character building and maturity. Teachers are also should enhance and always up-date their capacity through knowledge searching and learning from experiences. It is expected that teachers' increased professional and self capacity can influence their students' learning outcomes.

This study is focused on exploring some teachers' behaviour when their students are angry or dissatisfied with their grading process or decision. It is relating to teacher-student relationship, teacher anger management, situated learning and character education.

This study aims to explore several main issues relating to teacher student relationship. Those are:

1. How do some teachers respond and behave to their students' anger and feeling of dissatisfaction? This includes teachers' anger management and feeling related to their students' behavior.
2. How do some teachers repair/restore their relationship with their students?
3. What the teachers can learn from their experience and what they expect their students can learn or their students' perceived learning?

Many researches in the area of classroom management suggest that students' learning outcomes are determined by not only what teachers teach, but also how they teach and how they relate with their students. This indicates that teachers' communication behavior is a matter. Reference [1] mentions that teachers' verbal and nonverbal immediacy affect students' cognitive and affective learning by influencing students' learning motivation. Teacher-student relationship involves multi-dimensions of continuity, interdependency, shared activity, trust, intimacy, positive emotion, closure,

positive and negative impacts [2, p.20]. Teacher-student relationship can affect students learning since learning is "experiencing with" [3, p.26]. Reference [3, p.18] mentions that teacher-student relationship also affect students' character, knowledge and understanding, and skills. Moreover, Bukowski and Hoza [1989, cited in 2, p.20] mention "...the benefits of various relationship provisions, such as emotional well-being, a sense of cohesion and connectedness, instrumental help, a secure base and a sense of identity for promoting positive developmental outcomes." Quality of relationship also affects students' motivation in academic engagement. As mentioned by Connell and Wellborn [1991, cited in 2, p.22], social relationship satisfy an individual need of affective connectedness and becoming members of social group. Moreover, through their interaction, students expect being cared by their teachers which can increase their active engagement in academic setting [2, p.22].

Students may assess how they teachers are even before their teachers start delivering materials. Before students absorb materials given, they may assess context/situation in their classroom. Reference [3, p.16] mentions that teachers should give positive first meeting experiences by planning procedures of greeting, how activity will be organized, boundaries and how they will interact. Thus, teachers have power to direct and determine how teachers and students engage [3, p.17]. How teachers relate with their students can increase students' sense of liking to their teachers. This liking feeling because of being cared can enhance students' quality of work [Phelan, et., al., 1992, cited in 4, p.145]. Teachers should not only be smart, but teachers' selves are constellations of significant learning elements. Reference [5, p.13] lists several components that build effective teachers "(1) processor of desirable personal traits, (2) users of effective methods, (3) creator of a good classroom atmosphere, (4) master of a repertoire of competencies, (5) professional decision maker who has not only mastered needed competencies but learned when to apply them and how to orchestrate them." Teacher-student relationship is not one way, but it is bidirectional. This means that teachers' behavior towards their students is not only affecting students' emotion, but also teachers' own emotion. As mentioned by reference [6, p.458] teachers have basic need to connect. Furthermore, how teachers relate to their students can affect their belief about their self, students, relationship with their students, stress and teachers' well-being [6]. Teacher-student relationship can stimulate teachers to feel

being rewarded and acquire sense of worth [6, p.460].

As an individual, student has feeling, preferences, subjectivity and inclinations towards things. When what students want is in agreement with teachers, harmonious relationship can be established. However, when students do not agree with their decisions, they may be upset, angry or dissatisfied, their relationship with their teachers can get worse or deteriorate. Reference [7, p.19] mentions that if it is not managed properly, students' anger can cause discordant teacher student relationship, disturbed learning, displeased with the class activity, even withdrawal from topics. This students' anger can also affect teachers' wellbeing. Thus, it has double impacts.

Students may be angry because of various reasons. Frequently, they may feel being treated unfairly by their teachers. Reference [7, p.18] identifies five main causes of students' anger: injustice, inflexibility, gender, ethnic issues and race. Students may express their anger differently. Some students may display their anger aggressively or passively [7, p.19]. Furthermore, reference [7] suggests several ways to handle students' anger: listening without interrupting, understanding students' stand point, displaying empathy, handling teacher's own emotion, encouraging tearful students to stay calm and reflecting the incidents to plan future teaching method.

Since students' anger can exert impact on teachers and how teachers react/ behave can affect students' future learning process, teachers should be able to manage their own anger. Anger is two-way emotion [7, p.21]. Teachers' capacity to manage their negative emotion is significant since it can affect teachers' individual stress and wellbeing and impact their teaching [8, p.262]. Garner [2010, p. 311, cited in 8, p.262] finds that students can adjust to their teachers' emotion which can positively or negatively affect students' capacity to understand or comprehend the materials or impair their learning.

Many researchers put concerns on teachers' emotion since it can affect classroom climate, students' motivation and teachers' own job satisfaction and longevity. Reference [8] suggests that teachers should be able to manage and hide their negative emotion and cover it with more positive emotion, such as humour. Constanti and Gibbs [2004, cited in 8, p. 263] suggest teachers to embrace emotional labor as demanded within educational institution. "Emotional labor" refers to an individual's capacity to follow demanded particular emotion expression to reach certain job need [Hochschild, 1983, cited in 8, p.264]. Every

place may have its own emotion display regulation, including higher education institution. McPherson et al. [2003, cited in 8, p. 264] observe accepted and unaccepted emotion expression rules in higher education institution and they find "very intense and aggressive forms of anger display, such as yelling at, criticizing, or threatening students, were regarded as inappropriate anger reactions, as students experience these forms of anger display as violations of the expected norms. On the contrary, if teachers discussed their anger with their students and attempted to understand their perspectives, students considered the teachers' reaction appropriate." Reference [9, p.229] mentions that one of the hard elements in teaching profession is managing emotion to build harmonious relationship with their students. Teachers are expected to be able to establish professional relationship with their students. Parsons [1951, cited in 9, p.229] offers five components: affective neutrality-affectivity, specificity-diffuseness, achievement-ascription, self-collective, universalism-particularism.

2. Method

The problem of the study is explored and analyzed by using qualitative approaches. Phenomenology is used as the epistemology of the research. This phenomenology directs and provides ground for collecting, viewing and analyzing the collected data. The data are collected through distributing open ended questions to some teachers relating to their responses and behavior to their students' anger and the teachers' strategies to restore their relationship with their students. Their responses are compared and contrasted with my own experiences. This indicates that direct experiences are our primary data. This is relevant to the perspective of phenomenology. As mentioned by van Manen [1990, p. 26, cited in 10, p.59] phenomenology involves interpreting process which is done by researchers to understand the essence of lived experience. The essence of phenomenology is comprehending the essential meaning of daily experiences [11, p.9]. The phenomenological researchers are collecting data from participants who experienced the issues, selecting key data, and finding themes [11, p.60].

3. Findings

The following section represents the data/findings, discussion and link between practice with educational concept.

The teacher-participants are aware that teaching profession is full of challenges. One of the up and down moments on becoming teachers is becoming the target of their students' anger and dissatisfaction. The data show that the teachers view students' anger as stimulant for teachers' learning, teachers' social-humanity character building, teachers' ethical-academic behavior and students' learning. This is as conveyed by the teacher-participants as follows:

"...for me, being complained by my students is one of up and down moments to be a teacher. So...if we choose teachers as our professions, we should be ready to be frustrated by our students...through these experiences and sharing with colleagues, it is expected that teachers can manage their classroom problems." (Teacher-Participant-1)

"...a) students have various personalities, characters, motivations and goals to school. I view this situation as normal things because they are nurtured in different family background, social cultural environment and school/educational background...b) I observe that today's students learn just to get good mark, they want to achieve high GPA...c) I perceive that today's students are motivated to get good mark because they do not care about quality, do not have sufficient discipline, tend to find instant way and they satisfy and give up so easily...d) as a teacher, I should understand the meaning of harmony, compromise..." (Teacher-Participant-2)

Every teacher should develop emotion-anger management strategies which bring constructive/positive impacts for both teachers and students.

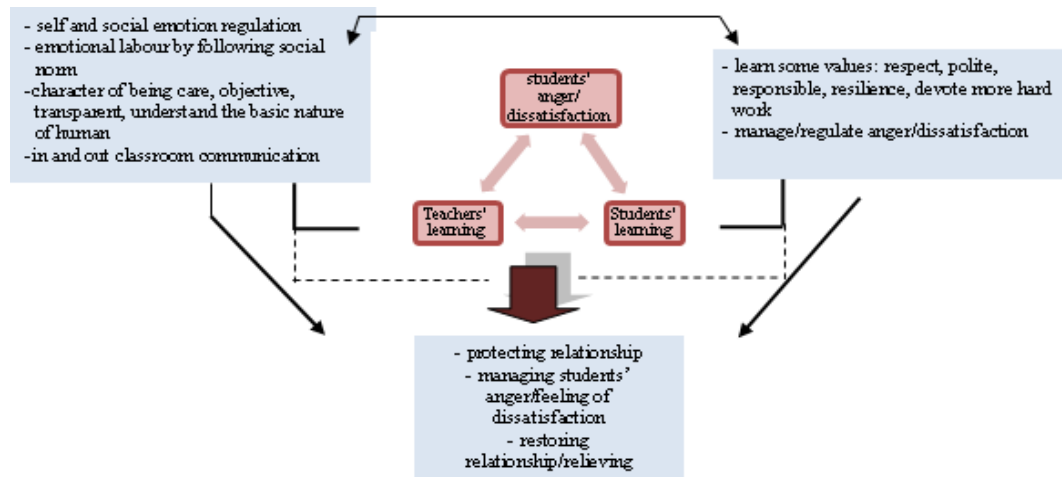


Figure 1. Interrelationship of teachers' learning, students' learning and teacher-student relationship

The data show that the teacher-participants are aware that teachers' emotive response can deteriorate their relationship with their students. To respond, the teacher-participants perform anticipatory-protective, during anger management/strategies and aftermath behaviour. Below are several samples of data representing the teachers' behavior and feeling.

Anticipatory-protective behavior:

"...at the first meeting, I socialize a procedure that the students can ask their mark and convey dissatisfaction relating to that." (Teacher-Participant-1)

Managing during Anger/dissatisfaction display:

"...mistake can occur because of either the students or the teacher. If, it is coming from me, I should ask apology and fix the mark. But if it is coming from the students, they are expected to accept the mark." (Teacher-Participant-1).

"in the process to find truth, the teacher should be transparent..." (The Teacher-Participant-1)

Aftermath:

"What we should do to restore relationship with students is respecting them. As teachers, we should appreciate and respect them. That appreciation/reward can be through greeting them, smiling, joking, chatting...The main point is giving is better than accepting..." (The Teacher-Participant-2).

The data also show that students' anger and dissatisfaction can be used by teachers to insert character education. This character education is emerging through everyday situation. This character education tends to be practical, emerged and learned through direct experience. The data also show that this experience is not only stimulating teachers to educate their

students, but also encouraging their own selves to learn from experience.

"values which I hope my students can learn are: a) honesty, b) ethic (politeness), c) being humble, d) capacity to express their view and argument, e) capacity to accept fact, f) capacity to forgive and ask forgiveness, g) self-awareness on human nature ...to avoid arrogance...things which I can learn for my own are: a) students have rights to express what they feel deserve to get, b) follow social norm, c) maintaining relationship." (The Teacher-Participant-1)

4. Discussion

Teachers are not only responsible for facilitating students' cognitive learning, which is frequently clearly stated in the curriculum, but also assuring that the students acquire social and emotional competencies. These competencies are frequently not directly stated in the curriculum and difficult to measure, yet it can significantly support and sustain students' success. Emotion control and emotionality substantively determine students' academic success [Blair, 2002, cited in 12, p.180]. Students' academic emotion, if it is not regulated/controlled, this emotion can affect students' future/next learning process. This is because emotion can stimulate cognitive and physiological changes and the following behavior, even it can persist across different situation [13]. Furthermore, anger may cause decreased social support and heighten an individual's loneliness, which may impact on development of self-esteem [14]. Thus, it is important for teachers to regulate his/her own emotion and their students' emotion. Well being can be achieved through emotion regulation [Gross & John, 2003, cited in 15, p.250]. Teachers' responses may affect teachers' well being. Professional/self satisfaction and professional identity. This indicates that there is a reciprocal relationship between teacher-student relationship, teacher-student behavior and teacher-student well being. Teacher-student relationship tends to be bidirectional [16, p.626]. Thus, teachers are obliged to create positive classroom climate through establishing supportive and connected relationship [17].

The data show the teacher participants perform self and social regulation. This self regulation is reflected through inward self awareness to calm down their own selves. They develop tolerance on their students' human nature to seek for fairness, objectivity and truthfulness. They are also aware that their students have different personalities which they bring and characters as nurturing process of

various environment backgrounds. It is vital for teachers to stay calm and use unemotive language/tone of voice [7, p.20]. Besides self regulation, the teachers perform social regulation in which they educate their students to be polite and aware of the ethic in communication.

Teachers' behavior in responding their students' anger or feeling of dissatisfaction can be divided into three main categories: avoiding, managing and restoring. Avoiding/protecting is performed by inserting rules/procedures that students can confirm the result of their evaluation to their teachers in their first meeting. This indicates that teachers aim to develop harmonious teacher-student relationship through open classroom communication. Supportive relationship can be established by teachers through in and out classroom communication [18, p.19]. The teachers tend to listen attentively and passively when their students are angry or expressing felling of dissatisfaction as the manifestation of respecting their students' voices/feelings. To manage students anger, while maintain their own self-respect, teachers should listen all students' feeling without interrupting and challenging/attacking their students [18, p.19]. The data also show that the teachers perform relationship restoration by engaging in short informal conversation with students outside classroom. The out-class-communication can increase trust in teacher-student relationship [18, p.214]. How the teachers behave to their students reflecting the balance of control and affiliation. Control represents power, while affiliation is manifested in emotional closeness [Gurtman, 2001; Kiesler, 1996, cited in 2, p.4]. Control is manifested in how teachers arrive at their decision to maintain their students' grade or change it, while affiliation is represented in how they keep on giving support and emotional back up for their students to learn more.

The data also show that the teachers are not only managing students' emotion, but also expect that this experience can be a good teacher to learn and practice good conduct. By responding in wise manner, the teachers are showing and exemplifying good conduct to their students. Moral character should be imparted through "teaching and exhortation" [19, p.25]. This experience can be part of lifetime process in which students constantly learn and practice their character. Reference [19, p.23] mentions that character education is not an instant process, but it developed and practiced through long time process. The teachers are not only educating performance character, but also moral character. The moral character is manifested in how the students should convey their anger/feeling of

dissatisfaction by respecting other people. The performance character is indicated by being responsible with the outcome of their own learning and being resilient.

Students' anger/dissatisfaction also stimulates teachers to learn from experiences. They learn some values and good conduct which can contribute to their classroom management and harmonious teacher-student relationship. The data show that as teachers, they should be objective in evaluating, being careful and care in making decision relating to students' life and being aware that students have their rights to find truthfulness, fairness and objectivity. The teachers also can learn how to manage their own emotion. The teachers are aware that they should communicate or display their emotion by following social norm. It is not appropriate for teachers to express their emotion by shouting at, blaming, endangering the students which can be considered as violating the social norms [McPherson et al., 2003, cited in 8, p.264]. It is expected that teachers can listen and understand the students' feeling [McPherson et al., 2003, cited in 8, p.264]. The following figure represents the interrelationship between teachers' learning, students' learning and teacher-student relationship.

5. Conclusion

Teaching profession has many challenges. One of those challenging is establishing and maintaining positive-harmonious relationship with their students when their students are not satisfied/up set with their teachers' grading decision. To respond to this situation, the teachers perform three main actions: protecting relationship/avoiding conflict, managing students' anger/feeling of dissatisfaction, and restoring relationship/relieving process. Students' feeling of dissatisfaction can stimulate teachers' learning in several areas: self and social emotion management, emotional labour, character of being care, objective, transparent, understand the basic nature of human and developing in and out classroom communication. The teachers also expect that their students can learn several values, including respect, politeness, responsibility, resilience and hard work.

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THE DEVELOPMENT OF MATHEMATICS LEARNING MODEL THROUGH INQUIRY-BASED REALISTIC MATHEMATIC EDUCATION (PEMATERI) TO IMPROVE LEARNING OUTCOMES AND CHARACTER HIGH SCHOOL STUDENT IN WONOGIRI

Yuli Bangun Nursanti

The purpose of this research was to produce a mathematical learning of PEMATERI model that came with the measures valid, practical, and effective. This study development a learning mathematical of PEMATERI models device and learning support to students of class XI SMA second semester. Learning Model consists of syntax, the social system, the principle of reaction, support systems, and the impact of instructional and accompanist. Learning support device consists of a lesson plan (RPP), sheet activities of learners (LK) and achievement test (THB). Learning model development starts from a) the preliminary study stage, b) the model development stage, and c) the test phase effectiveness model that includes stage learning model developed PEMATERI. Aspects of the development of product quality refers to the quality of the product development according to Nieveen which consists of three aspects, which are valid, practical, and effective. Subject research trial that is class XI IPA second semester. Instruments in this study consisted of 1) the validity of the instrument consisting of a sheet of validity Component Model Indonesian Realistic Mathematics Education (PMRI); 2) Practicality instrument consisting of practicality evaluation sheets teachers and learners; and 3) the effectiveness of the instruments comprising achievement test and questionnaire character of students in learning math of the PEMATERI models.

The tests showed the learning model that includes syntax, the social system, the principle of the reaction, and the impact of instructional and companion fit for use with very valid category. The trial results indicate the level of practicality of teacher assessment at all meetings of the average meets the criteria very practical. In addition, the level of practicality based on the assessment of learners also indicated that mathematics learning model PEMATERI have met the criteria very practical. The effectiveness learning of the PEMATERI model based on the results of THB has met the criteria effectively with the percentage of classical completeness achieved by 76%. The effectiveness of mathematics teaching model through the PEMATERI models significantly to the improvement of learning outcomes and strengthen the character of learners compared with conventional, proven by cognitive value, the average learning outcomes of the groups using the model PEMATERI= 4.10 > 3.44 mean learning outcomes using the conventional group. As well, the value of the character group of experiments above the group average Conventional, that is 4.10 > 3.06.

Keywords: Model of Learning, Mathematics, PEMATERI, characters, High School Wonogiri

1. Introduction

Mathematics is one of the basic lessons taught from elementary school in formal and non-formal level. Mathematics is a deductive science, in this case as an ornate science, to learn it is not enough just by rote and reading, but it requires thought and understanding. Mathematics is a very useful science to solve problems in everyday life and play an important role in the development of science and technology.

The above description is reinforced by the opinion of Suherman (2003: 56) which states that the function of mathematics subjects is as a tool of thought, and science or knowledge. Thus it can be said that the success of learning mathematics

in schools can influence the mindset of a nation in the face of a constantly changing and evolving era. The era of change does not mean that learners are only required to have good competence in the subjects in school, but also have the personality or character that applied in real life.

Meanwhile, in the direction and policy of education priorities in senior high schools it is asserted that character education has become an integral part of the effort to achieve the vision of national development formally set forth in Law no. 20 of 2003 on National Education System, Law no. 17 Year 2007 on the National Long Term Development Plan 2005 - 2025, PP No.19 of 2005 on National Education Standards,

Presidential Regulation no. 5 Year 2010 on the National Medium Term Development Plan 2010-2014, Presidential Instruction No. 1 Year 2010 on the Acceleration of National Development Year 2010.

Based on observations made by researchers found various problems related to the implementation of character education in subjects especially mathematics. From the observation that learners still feel reluctant or even afraid to study mathematics because too many formulas to be learned, mathematics is considered a boring lesson, because the mathematical material is abstract then, learners find it difficult to understand and confused in applying the concept of mathematics in life Day-to-day, tests provided teachers less stimulate the mind and creativity of learners.

The various problems above lead to low ability of learners knowledge (cognitive) but also aspects of attitude (attitude). Most learners still consider mathematics to be a difficult subject to

learn and fear for them. This is in accordance with the opinion Ruseffendi (in Puspita, 2009: 23) which states that the lesson of mathematics (exact science) is generally a subject that is unpopular. The assumption is already attached to the students, so that a negative impact on the process of learning mathematics. The problems often encountered in the learning of mathematics that the majority of teachers in teaching is still less attention to the ability to think learners, or in other words not doing meaningful learning. In addition, the lack of accuracy in determining the objectives and practice of mathematics learning today, the practice of learning mathematics is less balanced in developing the mind with the heart, less mathematical learning oriented on values that should be internalized, educational practices and less mathematical learning appreciate human humanity. The following table presents the percentage of strengthening the character values of high school students of class XI semester 1:

Table 1.1 Percentage Strengthening Character Values Students High School Class XI IPA Semester I Based on Results Distribution Questionnaire

Character Values	Percentage Strengthening Values Character Year 2013
Attempts to know more deeply and extensively from mathematics on the derived matter of the function he studied, viewed, and heard	72,71
Serious efforts, in overcoming the various barriers to learning and the task of derived mathematics of material functions, and complete the task of mathematics derived material functions as well as possible	58,95
Thinking and doing things to produce new ways or results from the mathematics of the derivative material the functions already possessed.	55,13
The way of thinking, acting, and acting that judge equally the rights and obligations of himself and others.	59,45
Actions in problem-solving or problem-solving exercises, conducting discovery activities, conducting questioning related to mathematical material and linkages with contextual issues with the value of intelligence.	66,65
Actions that show the pleasure of talking, getting along, and working with others	71,98
Attitudes and behaviors that are not easy depend on others in completing tasks.	71,52

Furthermore, the average value of UN High School mathematics subjects in Wonogiri District in 2012, as follows:

Table 1.2 Percentage of UN Average Score of High School Year 2012

School Status	UN Average Score
State School	5.95
Private School	4.69
School Average	5.32

Problems in learning mathematics and strengthening the value of the characters above, the researcher suggests one effort for character education can be embedded in the learners by collaborating with the subjects, one of them is mathematics. In mathematics the most important is not ability, but rather attitude. This suggests that without sufficient initial knowledge of mathematics, one can succeed in mathematics, provided that it has a supportive character and attitude in learning mathematics (Prabowo and Sidi, 2010: 169).

The researcher then did the development of mathematics learning model with the approach of Inquiry of Realistic Indonesia-based Mathematics Education which abbreviated with PEMATERI. The PEMATERI learning model develops cognitive and psychomotor abilities, as well as affective (characters), which impact on increasing the character's values by way of internalizing the characters' values in learners. Thus, it is expected that the model of learning that researchers develop with the name PEMATERI really contributes to improve the quality of mathematics learning and the increasing values of the character of the students in his hands.

Thus, the purpose of this research is to know the development of mathematics learning model through the model PEMATERI in an effort to improve learning outcomes and strengthen the character of learners. In addition, this study also to determine the effectiveness of learning models PEMATERI as an effort to improve learning outcomes and strengthen the character of learners.

2. Research Method

The research method uses research and development research and development (R & D), which is a research method used to produce a specific product and test the validity and effectiveness of the product. The procedure in

this study adapted the model of Sukmadin theory which was divided into three stages, namely (1) preliminary study, (2) model development, and (3) model effectiveness testing .. The sample in this study was taken by stratified cluster random sampling technique, Sample got sample of research that is SMAN 1 Jatisrono amounted 2 class as control and experiment class, SMAN 1 Purwantoro taken 2 class as experiment and control, and SMAN 1 Sidoharjo taken 2 class as control class and experiment. The research variables consist of independent variables of learning model PEMATERI and dependent variable that is test result of learning mathematics and character of learners. Instruments that have been validated in.

This study includes an instrument to assess product quality that includes aspects of validity, practicality, and effectiveness. Data collection in this research use documentation method, questionnaire, and test method while t test is used to analyze attitude questionnaire data.

3. Result

The development of the mathematics learning model through the PEMATERI model using the Sukmadinata theory is divided into three stages: (1) preliminary study, (2) model development, and (3) model effectiveness testing. The syntax of PEMATERI mathematics learning syntax consists of steps that are (1) orientation on the problem, (2) learners' organization to learn, (3) problem solving individually or group, covering stage: (a) formulating problem, (b) Proposed a hypothesis, (c) planned problem solving, (d) made observations and data collection, (e) data analysis, (f) conclusions and findings. (4) discuss answers and presentation of the work, and (5) analysis and evaluation.

Table1.2. Performance Percentage of Mathematics Learning PEMATERI

No	Syntax	Percentage (%) of implementation at the meeting							
		I	II	III	IV	V	VI	VII	VIII
1	Orientation on Contextual Problem	100	100	100	100	100	100	100	100
2	Organisation of learners to learn	66.67	100	100	100	100	100	67	67
3	Trouble shooting individually or in group	100	83.34	83.34	100	66.67	100	50	66.67
4	Discuss the answers and work presentation	80	80	80	100	80	100	100	80
5	Making conclusion	100	50	100	100	100	50	50	50

Based on Table 1.2 it can be seen that the principle of learning reaction mathematics PEMATERI can be created at every meeting. The social system starts to be done 100% at the second to sixth meeting. At the seventh and final meeting there are some learners who do not perform the problem-solving process. Furthermore, the supporting system of PEMATERI mathematics learning model began to be fulfilled at the second meeting until the last.

The planting of character values is an effort to internalize the values of characters contained in SMA Mathematics Learning to Wonogiri High School students such as religious, nationalism, love of the homeland, willing to sacrifice, appreciate achievement, reading, critical, discipline, social care, Independent, creative, honest and hard work. These values are integrated in Syllabus and RPP, implemented in

Mathematics learning has been entrenched in the daily life of learners.

4. Discussion

Through the stages of model testing both qualitatively and quantitatively can be known the effectiveness of the PEMATERI learning model. The activity continued with the implementation of effectiveness test through quasi experiment in SMA Negeri 1 Jatisrono (high group), SMA Negeri 1 Purwantoro (medium group) and SMA Negeri Sidoharjo in Wonogiri (low group) was able to improve the quality of learning.

Based on the hypothesis test, it is known that H_0 is rejected, it means there are differences in the effect of learning models on the learning outcomes of learners. To find out which one is better, it should be seen in the following table.

Marginal Rate Table of Learning Result Test

Learning Model		Early Ability			MargRate
		High	Med	Low	
	PEMATERI	87.25	86.13	83.63	85.67
	Conventional	78.88	78.13	77.38	78.13
	Marginal Rate	83.07	82.13	80.51	

From the table above shows that the effectiveness test result of test results on experimental group has a marginal rate of 85.67 is greater than the control margin average (conventional) of 78.13. One criterion of the effectiveness of PEMATERI learning model in development research is indicated by the strengthening of competence of learning outcomes that the learner achieved. Based on the results of competency achievement test using THB, as shown in Table 4.21, the marginal rate

of learning outcomes of students in class XI IPA after following the learning of mathematics PEMATERI that is 85.67 for the experimental group and 78.13 for the control group (Conventional). KKM value that must be achieved is 75.

Based on the hypothesis test, it is known that H_0 is rejected, it means there are differences in the effect of learning models on the character values of learners. To find out which one is better, it should be seen in the following table.

Marginal Rate Table of Strengthening Character Value

Learning Model		Early Ability			Marginal Average
		High	Med	Low	
	PEMATERI	118.03	113.94	112.03	114.67
	Conventional	88.56	84.91	82.16	85.21
	Marginal Average	103.30	99.43	97.10	

From the table above, it is known that the result of the effectiveness test of the strengthening of character values of experimental group learners (PEMATERI) has a marginal rate = 114.67 greater than the control margin average (Conventional) of 85.21. Meanwhile, from the questionnaire attitude attitudes of participant characters Educate on learning PEMATERI as presented in Table 4.22., It can be said that learners have strengthened the values of character as a school culture on the model of mathematics learning PEMATERI well. Furthermore, based on the results of correlation coefficient test at a significance level of 5% indicated that there is a significant correlation between the increase of the character values of learners to learning mathematics PEMATERI with Conventional learning.

Based on all the above studies it can be stated that the development of PEMATERI mathematics learning is a learning that has been tested validity, practicality, and effectiveness, so it can be considered to be used in learning mathematics in schools in improving the character values of learners.

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SEX DIFFERENCES INTO STRATEGIC COMPETENCE OF GEOMETRY PROBLEM

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Abstract

This study examined whether there was different geometry strategic competence between sexes by using mix method research. In quantitative stage, there were 60 Junior High School students (consist of 34 girls and 26 boys) were chosen using classified random sampling and given geometry scholastic task of strategic competence. The score obtained was analyzed by using independent t-test to compare the mean value of score between two groups. In qualitative stage, the score obtained was classified into high, medium, and low level. Semi-structured interview was conducted to six students (3 girls and 3 boys) whom represented each level as subjects. It purposed to determine the natural differences in strategy use between sexes. The result obtained that there was no different in geometry strategic competence between girl and boy. Girl students had more positive attitude than boys toward mathematics problem in the low level score and had the same strategic competence with boys in the medium level score. In the high score level, boy students were likely to use insight strategies to solve problems whereas girls likely to use algorithm strategies.

Keywords: sex difference, geometry, strategic competence

1. Introduction

During this globalization era, there were needed so many improvement in all aspect, especially in science and technology. Based on 14 principles of Kurikulum 2013 [1], education must promote the development of personal skills, thinking skills, social skills, academic skills, and vocational skills. All these skill needed to create the balance of hard-skill and soft-skill. In soft-skill needed high capability of analyze as the demand of this digital era.

Mathematics is closely related to improvement of science and technology. Mathematics was not only worked with several number, but also emphasized the process of deductive thinking which is structured, logic and consistent thinking. By enhancing the capabilities of the human mind, mathematics has facilitated the development of science, technology, engineering, business, and government. Therefore mathematics indicated as one of humanity's great achievements [2].

Geometry is one of the branches of mathematics that concern with the properties and relations of points, lines, surfaces, solids, and higher dimensional analogs. Geometry is closely related to daily life and technological development. Thus, it seems necessary to raise geometry skill in learning mathematics. It can be executed by initiate students with geometry problem solving.

In mathematics education, Ref. [2] state that mathematical proficiency is a goal of mathematics learning process. Mathematical proficiency consist of (1) conceptual understanding, (2) procedural fluency, (3) strategic competence, (4) adaptive reasoning, and (5) productive disposition. Among the five strands of mathematical proficiency, this study focused on strategic competence as an ability to formulate, represent, and solve mathematical problems. Thus, strategic competence has high correlation with geometry problem solving process.

Recently some research conducted to explore and create mathematical proficiency of students, such as Samuelsson [3], Widjajanti [4], and Susie Groves [5]. They were focused on strategic competence such Suh and Seshaiyer [6], Niss [7], Turner [8]. Ref [6] stated that strategic competence included problem solving and problem formulation which requires solving a problem by performing mathematical, numerical, symbolic, oral, or graphical representation. Ref [8] stated that strategic competence as strategic thinking which are selecting or devising, and implementing, a mathematical strategy to solve problems arising from the task or context.

Thus, in this study strategic competence defined as a skill about the use of strategies in problem-solving activities, which includes understanding, representing, and solving a problem. The indicator of strategic competence consist of: (a) understand the problem, (b) represent the problem

mathematically, symbolically, verbally, or graphically, (c) determining the right strategy to solve problems, (d) apply formulas or approaches to solve problems, (e) re-examine the solution obtained.

There are a lot of factor influenced mathematics achievement. Researchers had been explored these along this term. A lot of study discussed about the different capability of working on mathematics problem between boy and girl students and the variables along it. The previous research findings showed that boys had higher performance in mathematical problem solving as girl has higher anxiety and lower confident than boys, such as ref. [9] and [10]. However, other research findings showed that there were no difference mathematical performance between boys and girls, in fact girls had more positive attitude in math such as ref. [11], [12], [13]. This research findings indicated that the difference of mathematical skill based on sexes might change dynamically.

Sex difference refers to the biological, chromosomal, hormonal, and internal-external sexual organs between male and female [14]. Sex is closely related to the body's appearance and reproductive function between male and female, where male produce sperm while female produce egg cells and biologically able to menstruate, conceive, and breastfeed. Besides, sex difference is closely related to the term of 'gender'. But actually, these are different. Gender can be interpreted as differences in the roles, functions, status and responsibilities of men and women as a result of socio-cultural constructions (construction) which is embedded through the process of socialization from one generation to the next. Therefore, sex difference is categorized as male and female whereas gender is distinguished as masculine and feminine [14].

Based on biology and anatomy point of view, Ref. [15] state that androgen influence the mathematical capability of boy and girl students. A person with higher levels of androgens has better spatial and mathematical skills. It is

possible that males have better spatial abilities than females. Besides, there is different of the brain anatomy between males and females. In the male's brain, the right hemisphere is thicker than the left. This is likely to be the reason that male are better at spatial and mathematical abilities. In contrast, the female brain is mostly thicker in the left hemisphere, which is closely related to communication [16].

Based on the previous discussion, the main point of this study was: (1) to compare strategic competence of boys and girls in solving geometry problems and (2) to determine the natural differences in strategy used based on sexes.

2. Method

The method of this study consist of two stage, that is quantitative and qualitative stage. The quantitative stage aims to know whether there was difference mean value between boy students and girl students. To gain the information deeply, held the second stage, that is qualitative stage to know how obvious problem solving ability in each sex difference.

In the quantitative stage, data of problem solving ability were score of student's performance in doing geometry problem solving task. About 60 students (consist of 34 girls and 26 boys) were chosen by using cluster random sampling as a sample of population SMPN 2 Ngawi. They were given 14 geometry problems. The score of this stage were analyzed by using independent t-test to compare the mean value between boys and girls group.

The qualitative stage were about analyzing and describing the students problem solving ability based on the indicators that had been discussed before. The whole score interval in each group composed to be 3 interval score, that is high, medium, and low. The method of grouping shown in Table 1.

Table 1. Grouping Guidelines of Score

No	Score Criteria	Category
1.	$x_i < \mu - \sigma$	Low
2.	$\mu - \sigma < x_i < \mu + \sigma$	Medium
3.	$x_i > \mu + \sigma$	High

After composed the group of score in each main group (that is boy and girl), for the sample taken 3 students of each subgroup that is (high, median, low) score range by using purposive sampling. The chosen students were asked to re-perform the test while given semi-structured interview to acquire the level of problem solving ability. To obtain the data validity, used

triangulation. This study used triangulation of method, that is compare the data of performing test and the data of structured interview. By this stage, the writer could indicate the obvious problem solving ability based on the sex difference. Further, the method of these stage were shown in the Figure 1.

3. Results

The first stage examined whether there was a sex difference in students' geometry problem

solving. The result of this stage shown in Table 3.

Table 3. Sex Difference to Mean Value of Task

Sex Difference	N	Mean	Std. Dev
Boy	26	60.9250	20.67492
Girl	34	60.9904	24.43135

From the table above, known that the mean value of boy students is 60.92 and the mean value of girl student is 60.99. Standard deviation indicate the gap between high score and low score. From the Lavine Test, obtained:

$$P_{value} = 0.353 > \alpha.$$

This is indicate the variance of two groups is equal (homogenous). Then, the significant 2-tails obtained:

$$P_{value} = 0.991 > \alpha$$

This showed that there was no difference mean value of two groups compared. Thus, concluded that there was no different mean value between boy and girl students on geometry strategic competence.

The second stage, examine how geometry strategic competence of boy and girl students in each score range. By using descriptive statistics as shown in table 4, obtained the interval value as shown in table 5 and Table 6.

Table 4. Descriptive Statistic of Each Group

Details	Boy Score	Girl Score
Mean	60.9904	60.9250
Median	64.2900	64.2900
Mode	64.29	64.29
Std. Deviation	24.43135	20.67492
Variance	596.891	427.452
Range	71.43	71.43
Minimum	21.43	21.43
Maximum	92.86	92.86

Table 5. The Interval Score of Boy Group

No	Score Criteria	Category
1.	$x_i < 36.56$	Low
2.	$36.56 < x_i < 85.42$	Medium
3.	$x_i > 85.42$	High

Table 6. The Interval Score of Girl Group

No	Score Criteria	Category
1.	$x_i < 40.25$	Low
2.	$40.25 < x_i < 81.59$	Medium
3.	$x_i > 81.59$	High

The result of semi-structured interview in each group of high problem solving ability shown in the Table 7.

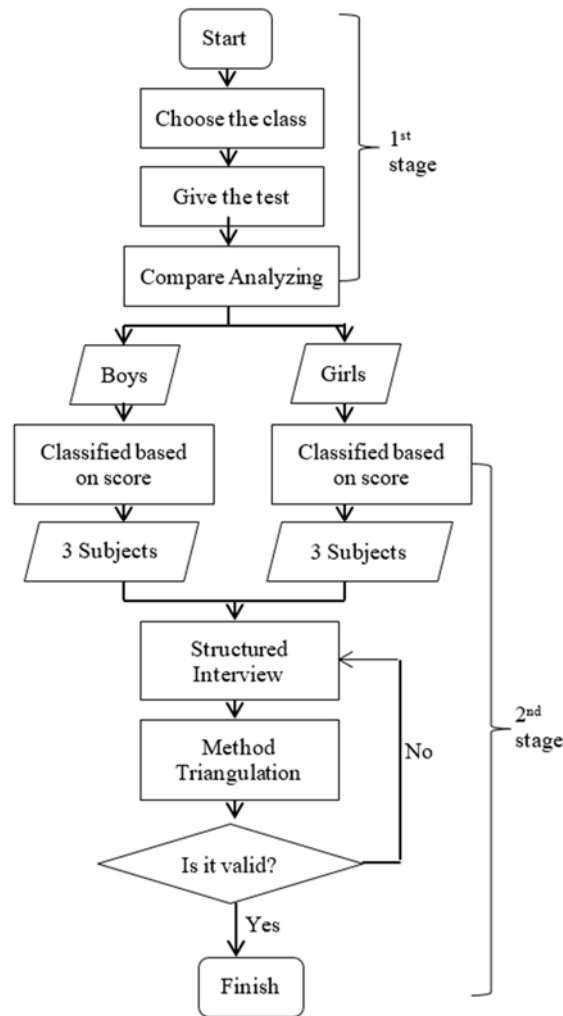


Figure 1. Method of the Study

Table 7. Sex Difference into Strategic Competence in High Score Range

Indicator	High score	
	Boy Student	Girl Student
Understanding problem	Understand the problem of questions quickly Can write what was known specifically. Can explain what the purpose of all questions clearly	Understand the problem of questions quickly Can write what was known specifically. Can explain what the purpose of all questions clearly
Represent the problem mathematically, symbolically, verbally, or graphically.	Can reconstruct the shapes needed in all questions.	Can reconstruct the shapes needed in all questions.
Determining the right strategy to solve problems.	Can create the right, simple and quick strategy Likely to work on creative and simple strategy	Can write and explain the right strategy. Likely to work on algorithm.
Apply formulas or approaches to solve problems,	Can apply the appropriate formula to solve all problems Work on task quickly Can work on counting number well	Can apply the appropriate formula to solve all problems Work on task thoroughly Can work on counting number well
Re-examine the solution obtained.	Can re-examine the answer by create another solution and check the validity both of them. Can explain the way to re-examine the solution obtained	Can re-examine the solution by recheck the formulas and approaches used step by step. Can explain the way to re-examine the solution obtained

The result of semi-structured interview in each group of medium problem solving ability shown in the Table 8.

Table 8. Sex Difference into Strategic Competence in Medium Score Range

Indicator	Medium Score	
	Boy Student	Girl Student
Understanding problem	Take times to understand the problem of high logical question Can write what is known in every question but sometimes missed some of them. Can explain what the purpose of the question	Take times to understand the problem of high logical question Can write what is known completely. Can explain what the purpose of the question.
Represent the problem mathematically, symbolically, verbally, or graphically,	Can reconstruct the shapes in all questions	Can reconstruct the shapes in all questions
Determining the right strategy to solve problems,	Can write and explain one strategy to solve problems, except in high logical question.	Can write and explain one strategy to solve problems, except in high logical question.
Apply formulas or approaches to solve problems,	Can apply the appropriate formula to solve the problems, except the high logical question.	Can apply the appropriate formula to solve the problem, except the high logical question.
Re-examine the solution obtained.	Can re-examine the solution obtained by checking the propriety of each step.	Can re-examine the solution obtained by checking the propriety of each step.

The result of the semi-structured interview each group of low problem solving ability shown in Table 9.

Table 9. Sex Difference into strategic Competence in Low Score Range

Indicator	Low Score	
	Boy Student	Girl Student
Understanding problem	<ul style="list-style-type: none"> - Can't understand all the question. - Can't write what is known completely in all questions - Can't explain what the purpose of the problem. - Can't understand the applicative question (such as count the travelled distance by applied concept of circumference - Almost easy to give up when found the difficult question 	<ul style="list-style-type: none"> - Can't understand the difficult and medium question - Take much time to understand the easy (applicative) problem - Can't write what is known completely. - Can explain what the purpose of the question uncertainly. - Hard to understand the applicative question, such as count the travelled distance by applied concept of circumference - When working on difficult question, she tried to solve it even by inappropriate solution
Represent the problem mathematically, symbolically, verbally, or graphically	Can't reconstruct the shape in all questions.	<ul style="list-style-type: none"> - Can't reconstruct the shape in medium and high logical question. - Can reconstruct the shape of applicative question
Determining the right strategy to solve problems	<ul style="list-style-type: none"> - Didn't know the right strategy to solve problem. - Applied the wrong concept to solve problem 	<ul style="list-style-type: none"> - Didn't know the right strategy to solve problem. - Applied the wrong concept to solve problem
Apply formulas or approaches to solve problems	Didn't apply any formula to solve problems.	Applied wrong formula to solve problems.
Re-examine the solution obtained.	Can't re-examine the solution.	- Can't re-examine the solution

4. Discussion

The result of this study indicated that there was no difference in geometry strategic competence between boy and girl students. This showed that there was no linearity between sex difference into mathematical proficiency specially in strategic competence. This was in line with the previous research such as ref. [11], [12], [13].

From semi-structured interview to boy and girl subject of high score level, found that boy student had more simple and easier strategic to solve problem than girl student. On the other hand, girl student tend to work step by step and paid attention to each step taken thoroughly. This indicate that boy student more likely to use insight strategy to solve problems and girl student more likely to use algorithm.

From semi-structured interview to boy and girl subject of medium score level, found that boy and girl student has the same skill and ability to solve problems. It showed that boy and girl students had the same ability on strategic competence but girl student tend more careful as she could explain what was known of the question more accurate than boy.

From semi-structured interview to boy and girl subject of low score, found that they hard to understand the problem. It caused they can't find any strategy to solve it. Boy student tend easier to give up than girl when finding the difficult problem. This is indicate that girl student had more positive attitude toward mathematics problems, in line with the previous research such as ref. [12] and [17].

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STRATEGY EVALUATION OF METRO CITY TOWARD EDUCATION CITY

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Abstract

This paper shares the experience of research on development planning strategy in Metro city. Metro, a city that located in the western part of Indonesia, put education as their strategic planning goal toward the achievement of knowledge city. The purpose of the study is to evaluate strategic planning in Metro city. The strategic planning was started in 2005 and will be due in 2025, it means that the planning is considered to be valid for 10 years. Mixed method research design was used in the study with qualitative approach worked as the first phase and followed by quantitative ones in the second phase. Document analysis and interview were used to obtain the data in qualitative phase, followed by survey in the second phase. The purpose of the survey is to complete the findings in the qualitative phase, thus no generalization will not be taken in this study. The result of the study shows an interesting result. The data taken from the document analysis and interview indicate that strategic planning of Metro city has not been achieved although it has been more than ten years from initial implementation in 2005. On the other hand the result from survey indicates the opposite result. Most respondent thought that Metro city and its government have reached the target in strategic planning. The result indicates that there have been inconsistencies between the government and the public. The government, through its official and documents, indicated that the strategic planning was not working well, while the respondents showed the opposite. Lack of communication between government and public may be the reason behind this inconsistency. Theoretically this study suggests further research to probe David's strategic planning (2004), as it might need to be adjusted in different context. Further suggestions are discussed in the paper.

Keywords: Development Planning, Strategy Evaluation, Education City

1. Introduction

Since the autonomy era, every single district have had their own authority to manage their importance which means that they have an authority to rule and to develop their own region, so it is expected the development will create a good governance based on the physics, social, economic and culture of every region. Every single district has different focus and orientation from another district. Nurman (2015) said if every single district has different characteristic in growth from another district, the development plan become important thing which need to be concern to know the characteristic of economic, social and physic of the region. Generally the characteristic of economic, social and physic of the region become the basic in arranging the development plan that indicates the vision and mission of the region. The plan is a process to decide the goal and the steps to achieve it. Rahman (2016) said that the plan is the important thing for every initiative of the development. The

plan needs some choices (wisdom) on the way to achieve the goal, for the example is the life condition of the society. Rinaldi (2016) said the wisdom of the development of region is an approximation to integrate the different program and wisdom in local scale (region/district) to build the coordination, so that increase the managerial of the government by involving some politicians to define the wisdom. Sjafrizal (2015) explained about the role of the development plan like the development plan of the developing countries, included Indonesia, still have big role as the instrument to push and to control the development process aimed and quickly. The plan of the development in Indonesia keeps growth along with the changes of era and the difficulties of development which are being faced.

When arrange and execute the development plan, it needs some strategies so that development can be achieved effectively and efficiently, as Donnelly (1984) said (in Salusu, 2015) that to apply the strategies, we must

analyze how much cost and time needed and what the goal achieved. The decision of the strategies usually makes the organization to have commitment or aim in the long time (Robinson & Pearce, 1997). For that, the strategies are expected can facilitate some plans for applying long time execution.

Metro city is a city with 68, 74 km² large or it just 0, 19 % of Lampung province large with traditional society, but it has high enough vision to be a city of education. In 2005, the government of Metro city declared the city as the city of education. To reach that, the government of Metro city formulates some strategies of development. The strategies to achieve the vision of Metro city as the city of education have been decided in four steps, there are: Reading Society (2005-2010), Learning Society (2010-2015), Learning Transformation Society (2015-2020) and Learning Internalization Society (2020-2025). This research will evaluate the step of

strategy to achieve Reading Society (RS) and Learning Society (LS). In the Long Term of Region Development Plan (RPJPD) Metro city 2005-2025 explained that the City of education has meaning that in 2025 condition of society in which the education have become the culture which is based on the religious values in the society by the steps of reading, learning, transformation of learning so it will make condition of society which is have learning culture (internalizing), so that will create an excellent human being who has capability. While prosperous means prosperity in moral/religion, soul, mind, family and wealth (Bappeda Kota Metro, 2012). This research will focus on the evaluation of Metro city vision as the city of education which has been seen from the strategies of development plan and will be analyzed by using strategy evaluation theory by David (2004).

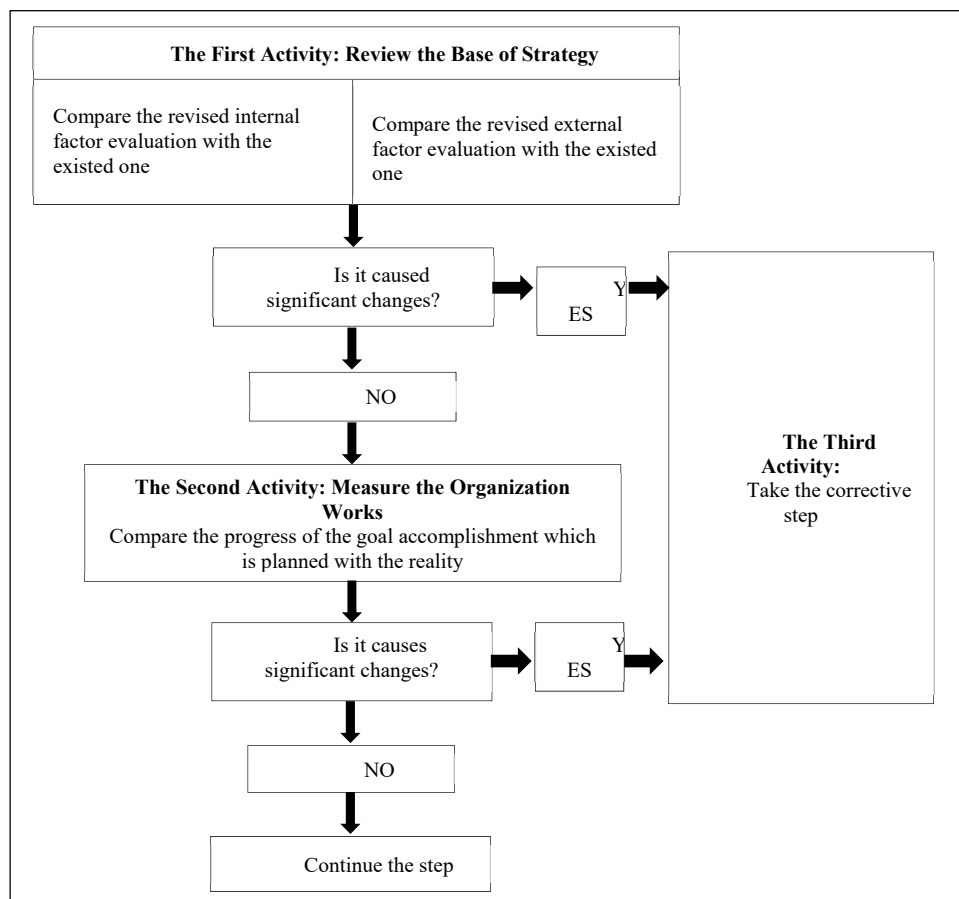


Figure 1: Strategy Evaluation Model by David (2004)

Conceptual Framework

Basically, plan is the interpretation of the decision to achieve the goal. Yusoff et al (2014) explain about the purpose of the plan, the purpose of the region development plan is to

present the policy, the proposal which is arranged to achieve the plan which is mentioned on the goal of region foundation and the development of plan and strategy structure. As mentioned on UU No.25 year 2004 about National Development

Plan System, the main aim of the development plan is to support the coordination between the subject of development, make sure the integrity, synchronize and synergize between region, make sure the connection and consistency between the plan, the cost, the implementation and control, optimize the participation of the society in the plan of foundation, also make sure the achievement of the use of sources effectively, efficiently and fair. The development plan is conducted for achieving the aim of the region and it can be shown on that region vision. Since 1990 the vision has been become the important instrument to decide the priority of the society and to develop the purpose of the region continuity (John et al, 2015). This approximation (region vision) in the urban plan can promote the region and as direct innovation and also the decision interpretation at the city in some aspects. Moreover, it is disposed to solve the continuity difficulties and facilitate the continuity of the development transition (Ferguson, Frantzeskaki, & Brown, 2013; Minowitz & Wiek, 2012; swilling, Robinson, Marvin, & Hodson, 2011; UN Habitat, 2010 at Jhon et al, 2015). Vision is the process of the plan which has strategic characteristic (Chen et al, 2015). Koncoro (2004) said that the formulation of the vision is very important as the aim of the strategy and the orientation to implement the formulated strategy. Besides, the vision can be an instrument to promote a region or district. Oliveira (2015) said that *brand* of some region is the efforts to increase the position of the country or region in the purpose of infestation.

In Indonesia the vision of region can be found in the region plan document (RPJPD for long range and RPJMD for middle range), which is going to be the main priority of region foundation for one year period in the work plan of district government (RKPD). Then the vision is described more concrete in the region foundation purpose. Sjafrizal (2015) said that the purpose of the region development include the condition and the result that are expected to be achieved until the end of the period of the plan in the certain sector and aspect to achieve the whole of development vision. So this research will see how the planning of strategy in the efforts to achieve the Metro city vision as the City of education. Therefore, this research will evaluate the vision strategy of Metro city which has been done for two periods.

The strategy evaluation theory by David (2004) is used to find out wheter the vision of strategy achievement needs the corrective measurement or continue the aim of the strategy. There are three bases of strategy evaluation

activity by David (2004) i.e. (1) review the base of strategy, (2) compare the results with the reality, and (3) take some corrective measurement to make sure the performance is appropriate with the plan. In the first activity, the indicator of internal and external factor also use the environment observation indicator of strategy management model from Hunger & Wheelen (2003) which means the internal factor indicator that will be reviewed in this research, they are the structure culture and the natural resources. Structure is the way how the organization runs along with the communication, authority and the current work. Culture is the pattern of the belief, hope and values which are distributed by the member of organization. Natural resources are the assets which are include with people skill, ability, and gift managerial, such as wealth assets and internal region functional facility. While the external factor indicators are the social environment and the work environment. The work environment includes of elements or group which are directly influence or influenced by the main operations of the organization of social environment included general power. Several aspects that includes the social environment are economic, socio-cultural, technological and political-legal

2. Method

The research design used in this research was evaluative research with quantitative and qualitative research methodology or *Mixed Method*, which evaluated the strategies of Metro city vision on two periods in 2005-2010 and in 2010-2015 by seeing the development foundation plan strategy. *Mixed method* model used in this research was combination model, *Sequential Explanatory*. This research was done in three steps, i.e., the first step is documentary study, the second step is interview, and the third step is survey. The qualitative approach was employed to find out how the development plan strategy of Metro city through the documentary study and interview. The quantitative approach was conducted for answering the strategy evaluation theory by David (2004) in which the first activity was reviewing the base of the strategy through the survey. By this *Mixed Method*, this research was looking for the complete understanding about the context of the strategy of plan evaluation in Metro city Indonesia.

The data sources in this research were the primary data and the secondary data. The primary data were obtained by the survey and interview. The secondary data were obtained

from documentary study. The qualitative data resources in this research were the secondary data and the primary data. The secondary data used in this research were (1) *RPJPD Kota Metro* 2005-2025; (2) *RPJMD Kota Metro* 2005-2010; (3) *RPJMD Kota Metro* 2010-2015; (4) *APBD Kota Metro* 2005-2015; (5) *Renstra Dinas Pendidikan, kebudayaan, pemuda dan olahraga* 2005-2010; (6) *Renstra Dinas Pendidikan, kebudayaan, pemuda dan olahraga* 2010-2015. To get the primary data of interview, the information was obtained from: (1) *Bappeda Kota Metro*; (2) *Disdikpora Kota Metro*; (3) *Dinas Pustakarda Kota Metro*; (4) One of the highest decision makers in Metro city on the period that will be evaluated in this research; (5) The community leaders of Metro city. The quantitative data resource is the primary data there is the result of the survey. The sample of the survey was 100 respondents. The respondents were taken from every circle of the society, i.e., the government of Metro city, academicians, teachers and some social groups. The aim of the survey in this research was to make the invention of the qualitative approach completely, but the decision will not be taken in generalization. The analysis technique of qualitative data used in the

research was the interactive analysis technique which is presented by Miles dan Huberman (1994). It is the reduction data by decreasing the data which are not relevant with the problem, the data display is data that is presented in the table, picture which are supporting the conclusion as the final result of the research. Besides, to evaluate the vision strategy of Metro city, strategy evaluation theory from David was employed by using strategy evaluation indicator from Hunger & Wheelen. Descriptive analysis was used to analyze the quantitative data.

3. Results

The city of education has been chosen by the government of Metro city as the ideals of Metro city development plan. This vision is based on the potential of the area of Metro city whereas *ex* Middle Lampung district. Metro city has excellent human being resources and social community which has been educated in Lampung Province. It can be seen in the table 1. From table 1 it shows that Human Development Index (HDI) of Metro city becomes the highest in every year than the other district in Lampung Province.

Table 1. HDI Lampung Province 2005-2015

District/ City	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
West Lampung	66,0	66,78	67,74	68,21	68,83	60,93	61,92	62,51	63,21	63,54	64,54
Tanggamas	67,7	69,02	69,62	70,19	70,84	60,09	60,63	61,14	61,89	62,67	63,66
South Lampung	67,2	67,76	68,39	68,79	69,51	61,07	61,95	62,68	63,35	63,75	65,22
East Lampung	67,9	68,64	69,23	69,68	70,20	63,23	64,10	65,10	66,07	66,42	67,10
Middle Lampung	68,8	69,09	69,40	69,93	70,38	64,14	64,71	65,60	66,57	67,07	67,61
North Lampung	68,0	68,49	68,97	69,40	69,40	61,82	62,67	62,93	64,00	64,89	65,20
Way Kanan	67,4	68,08	68,46	68,98	69,46	61,27	62,04	62,79	63,92	64,32	65,18
Tulang Bawang	67,8	66,20	68,63	69,14	69,14	63,21	63,67	64,11	64,91	65,83	66,08
Pesawaran	-	-	-	68,73	69,43	58,64	59,44	59,98	60,94	61,70	62,70
Bandar Lampung	73,9	73,76	74,29	74,86	74,86	71,11	72,04	72,88	73,93	74,34	74,81
Metro	74,5	75,19	75,31	75,71	75,98	71,37	72,23	72,86	74,27	74,98	75,10

The city of education which is aspired means not only on the formal education, but also the education in every aspect of life. Metro city becomes the place of study not only for the student but also for every circle. It has been seen from the strategy which is formulated by the government of Metro city in achieving Metro

city as the city of education. As the previous explanation, the government of Metro city formulates the development plan strategy to achieve the vision of Metro city as the city of education in four steps, they are: the first step is produced *Reading Society* (2005-2010), the realization of the society behavior which is have

reading culture, the second step is produced *Learning Society* (2010-2015), the realization of permanent behavior pattern of society and becomes a good guidance for another (*Self Responsibility / Self Adoption*), the third step is produced *Learning Transformation Society* (2015-2020), the realization of the distribution of behavior pattern of society which is *Extrapolizing (Difution)*, and the fourth step is produced *Learning Internalization Society* (2020-2025), the realization of the independence of behavior culture of society or independence culture center (*Internalization*). The steps of the strategies above shows that the government of the Metro city wants to build Metro city as the city of education by applying educational culture values in society. Every step of strategy is focused on the behavior pattern of educated society. The four strategies above are explained in every period of RPJMD of Metro city. This research will evaluate the step in two periods, they are the step of strategy to achieve RS (Reading Society) and LS (Learning Society).

In the first step or period (2005-2010), it was intended to establish the basic framework of study, progress and prosperity of the region in order to create the behavior of society which has reading culture. The basic framework of region progress was created based on the structure of the room area layout, infrastructure maintenance, also the improvement of apparatus quality and institutional management in every division. This step was directed to the maintenance and the restoration of the exist condition such as social and religious condition, facilities and infrastructure, health service and the quality of human resources, so that the improvement and prosperity could be achieved quickly. The *Goal* in this period was to create RS (Reading Society) in the society of Metro city. *RS (Reading Society)* can be produced if reading becomes culture and needs in the society. To create RS (Reading Society) the government of Metro city determined the policy in education sector to produce the quality of human resources through formal and non-formal education, and increase the quality and the relevancies of education. The strategy taken by the government of Metro city to execute the policy was upgrading the quality of human resources in education which is based on the faith and belief, science, technology and cultured; teaching system development and efficient education curriculum, integrated and right on target; increase of the quality and competitiveness of the college; increase of the education facilities and infrastructure.

In period 2005-2010 is the beginning of the Metro city vision as the city of education. The condition of education at this period was still in the structuring and maintenance process. So that the government policy of Metro city in this period was prioritized on the formal education especially in three aspects, i.e., increasing the quality of the students, increasing the facilities and the infrastructures, and increasing the quality of human resources. Besides, to create cultural reading society or RS (Reading Society) the government of Metro city through the region library agency of Metro city approached the society in order to increase reading interest in the society. The approach for the students was done early from pre-elementary until university. To introduce the library in the pre-elementary grade, the government invited every pre-elementary school at Metro city once every week alternately. In this activity, pre-elementary students were introduced and explored the library of Metro city, furthermore they also chose and read books which they loved in order to increase reading interest early. In elementary grade, a part of students have been familiar with the library of Metro city because they have been introduced when they were on the pre-elementary grade. For the elementary school around the library of Metro city, a part of students are coming there after school. In junior and senior grade, schools gave some exercise to find out some references from the books in the library of Metro city. In approaching general public, the library agency of Metro city created smart house program. Smart house program is downtown library program which has been served in every village in Metro city since 2006. Smart house library of Metro city served public books which relate with the life of the people in society. Such as cooking book, gardening book, farming book etc. next there was also the mobile library program which distributed books to increase the reading interest of society, the mobile library went around four times a week from school to school and also prison.

The government of Metro city did many things through the programs above to increase the reading interest in the society and to create RS (Reading Society). But that programs have not used yet by all of people in Metro city because they are still have low consciousness. Until this time those programs are used only by few people in the society of Metro city. According to the result of interview conducted by the government of Metro city, whereas one of factors that RS have not been achieved yet is because people in the society still have low consciousness and participation. From the result

of documentary study, it also found out that the amount of visitor in the library include of the kind of achievement indicator of main work in Metro city (IKU). In RPJMD of Metro city 2010-2015 was recorded that in the beginning of the period (2010), the amount of the library visitors in a year were 53,549 and the target of the end of the period (2015) reached 315.000. But in fact, at the end of period the amount of library visitors were just 55.262 people in a year. This achievement is so far from the target. It can be one of indication that RS have not been achieved till the end of the second period. So it can be concluded that RS could not be realized yet till the end of period 2010-2015.

Furthermore the period 2010-2015 was aimed to increase the progress and prosperity of the region as learning process in the establishment of the behavior pattern of society which is established. In this step, those activities preferred for increasing the human resources through the understanding of social and religious values in the society. The existed social and religious values were shown from the expansion of social and religious institution which has been build, so people would understand the values which has been exist to build an ethic society and religious in life. The partnership of the government and the city stakeholders was kind of cooperation between agent of development which has synergy and also standing for the law which is occurred. It will grow believes and become public guidance. The *Goal* of this period was to create LS (Learning Society) in the society of Metro city. LS (Learning Society) can be realized if learning become culture in the society, it means that learning about every aspect of life has been become culture in the society. For realizing LS (Learning Society), the government of Metro city determined some strategies which were taken, there are: certification of the educators; preparing the religious educators and religious activity; increasing the reading interest and learning culture in the society; giving facilities for the learning community in the society; supplying facilities and infrastructures of the house of worship and religious education. The difference between the strategy of this period and the previous period is in the previous period, the strategy which was made just focused on the formal education and the strategy of this period focused on the non-formal education like religious education which is increased. In order to realize the LS (Learning Society), the government of Metro city made learning time program (JBM). Through the learning time program the government of Metro city asked every people to support the program by shutting

down the television from 18.00 till 21.00 for learning especially for the students. But those programs were not supported by some socializations and continuity monitoring. Besides, the role of the society itself especially for parents had low consciousness of participation in order to create conducive situation at the learning time program. So that program could not be maximized.

Metro city as the city of education can be realized in phases like the strategy which is formulated in the step of foundation in RPJPD Metro city 2005-2025. So LS (Learning Society) will be realized if the RS (Reading Society) realized as well. The result of analysis of study documentary and interview in this research find out that until the end of period 2010-2015 RS (Reading Society) has not been realized yet, so it can be said that people of Metro city are not ready to realize LS (Learning Society). Peoples of Metro city are still need to be strengthened on the RS (Reading Society). But the different result is found out from the analysis of strategy evaluation theory with the evaluation strategy theory by David (2004). The first activity in this theory is reviewing the base of strategy. The base of strategy in this case reviews the internal factor of environment and the external factor of environment are changed significantly or not. To analyze it in the vision of Metro city, the researcher conducted survey for 100 respondents consist of the government, teachers, college students, and social community.

The indicator of internal fator consists of structure, culture and resources, while the indicators of external factor consist of the social environment and the work environment. Those indicators are taken from the observation of environment based on strategy management model by Hunger & Wheelen (2003) and they breaks down into 16 questions with sub-indicator from each indicator as follows:

1. The internal factors of environment
 - a. Structure indicator, with sub-indicators;
 - 1) Communication
 - 2) Authority
 - 3) Current works
 - b. Culture indicator, with sub-indicators;
 - 4) Belief
 - 5) Hopes
 - 6) Values
 - c. Resources indicator, with sub-indicators;
 - 7) Skill
 - 8) Managerial
 - 9) Facilities

2. The external factors of environment
 - a. Social environment indicator, with sub-indicators;
 - 10) Economic power
 - 11) Technology power
 - 12) Politic-law power
 - 13) Socio-cultural power
 - b. Works environment indicator, with sub-indicators;
 - 14) Government
 - 15) Society
 - 16) Competitors

Every question has 5 answer choices, they are very agree, agree, neutral, not agree, and so do not agree. For very agree and agree answers are classified as YES answers, while not agree and so do not answers are classified as NO answers. The result of this survey shows in the structure indicator that there are 251 answers or 84% declare very agree and agree with, 45 answers or 15% declare neutral and 4 answers or 1% declare not agree. It shows that people of Metro city consider the structure indicators are experiencing significant changes on the vision of Metro city as the city of education. The most experiencing factor which is change significantly is communication. For culture indicator, there are 235 answers or 78% declaring very agree and agree with, 41 answers or 14% declaring neutral and 24 answers or 8% declaring not agree and so do not agree with. It shows that people of Metro city consider the culture indicators have significant changes on the vision strategy of Metro city as the city of education. The most experiencing factor which is change significantly is values. Furthermore in resources indicator, 204 answers or 68% declaring very agree and agree with, 56 answers or 19% declaring neutral, and 40 answers or 13% declaring not agree and so do not agree with. It shows that peoples of Metro city consider the resources indicators have significant changes on the vision strategy of Metro city as the city of education. The most experiencing factor which is change significantly is skill.

Furthermore for social environment indicator, there are 244 answers or 61% declaring very agree and agree with, 112 answers or 28% declaring neutral, and 44 answers or 11 % declaring not agree and so do not agree with. It

shows that peoples of Metro city consider the social environment indicators are experiencing significant changes on the vision strategy of Metro city as the city of education. The most experiencing factor which is change significantly is economic power. In the work environment indicator, there are 221 answers or 74% declaring very agree and agree with, 70 answers or 23% declaring neutral, and 9 answers or 3% declaring not agree and so do not agree with. It shows that peoples of Metro city consider the works environment indicators are experiencing significant changes on the vision strategy of Metro city as the city of education. The most experiencing factor which is change significantly is society.

Overall the result of the survey between internal and external factor of the environment shows that the most experiencing factor which is changes significantly in the internal environment is structure indicator and the most influential factor in the external environment is social environment. In the internal factor there are 690 answers of very agree and agree with, which means that 77% for answering YES, there are 68 answers of not agree and so do not agree with or 8% for answering NO, and also 142 or 16% for answering neutral. While for the external factor there are 465 answers of very agree and agree with, which means that 66% for answering YES. There are 53 answers of not agree or so do not agree with or 8% for answering NO, and 182 or 26% for answering neutral.

The analysis result on the first activity of strategy evaluation theory by David (2004) shows that the perception of Metro city people assesses the significant change in the internal and external environment achievement of Metro city vision as the city of education. Based on the strategy evaluation theory by David (2004) in the figure 2, without continuing the second activity from the result, it can be concluded that the government of Metro city must take the corrective step in order to continue the vision of Metro city as the city of Education. In this case the government needs to continue the strategy of *Learning Transformation Society*. For clearly explanation about evaluation strategy theory by David (2004), it can be seen in figure 2 as follows:

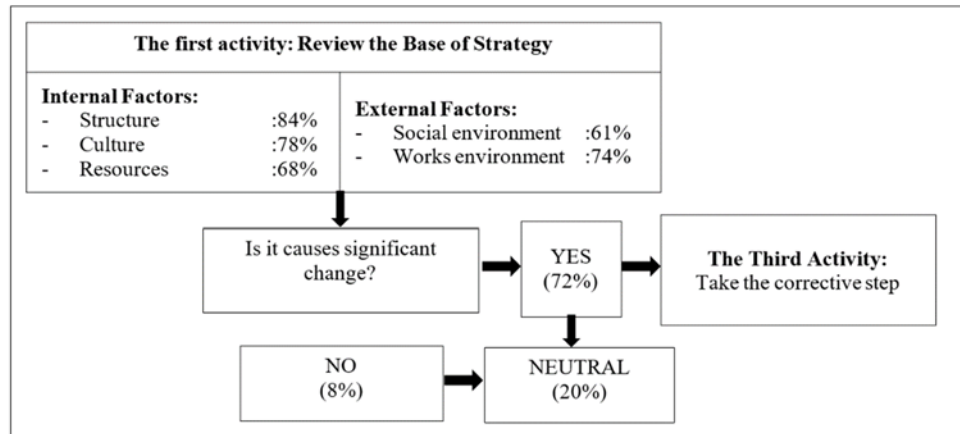


Figure 2: Strategy Evaluation Theory by David (2004)

According to picture 4, it can be seen that there is discrepancy between the result of strategy evaluation theory by David (2004) with the result of the analysis of documentary study and interview. From the result of the research of documentary study and interview about the achievement of Metro city vision, Metro city has not succeed to achieve the vision as the city of education which is seen from the development plan strategy by the government of Metro city, Metro city was not capable to realized the RS (Reading Society) in period 2005-2010 and LS (Learning Society) in period 2010-2015. In other side, the result of survey from Metro city people shows that people's perception about significant change in the internal and external environment of Metro city vision as the city of education. In other words, peoples of Metro city consider that Metro city has been succeed become the city of education in two periods. If this situation is seen from another perspective from David's strategy evaluation theory, it will be meant as success of strategy and must conduct the corrective step to continue the strategy for the next level, in this case to continue the strategy of *Learning Transformation Society*. But the reality is not suitable with this theory, in which the government strategy to realize the vision is not achieve and the government must be focus to continue the strategy to develop the society for achieving the RS (Reading Society).

4. Discussion

The region vision can be described as the future of that region which is want to be achieve. Without that vision, it can be said that the region have not aim which is want to be achieved and the region will run without clear direction. Furthermore, within vision, the region can arrange the development strategy to achieve that vision. With some strategies it is expected that it

will make the implementation of the plan easier for long time. The strategy is expected to give more significant guidance, so the implementation will be suitable with the expectation. The *Urgency* of the strategy also delivered by Joel Ross in David (2004) who said that without strategy, some organization just like a war ship without control which is just go around in the circle. So the strategy in plan and implementation of the development becomes critically important to be implemented. The strategy which has been made must be implemented constantly.

Based on the result of the research, the development plan and strategy, Metro city has not succeed yet to achieve the vision as the city of education, while Metro city citizen perception claim that Metro city has been successful become the city of education. This result of the study is not suitable with the evaluation strategy theory by David (2004) about the vision of Metro city that must take some corrective steps to continue the strategy to be *Learning Transformation Society* because the vision has been achieved. Otherwise the reality shows that it must continue the strategy of RS (Reading Society) because the vision has not been achieved. But the survey in this research was done with limited respondent and it was not capable yet to represent the entire citizen of Metro city. This research is considered as illustration and not concluded in general, that's why this research cannot pull larger sample and it will represent the entire citizen of Metro city.

Factors that make the strategy has not achieved yet is the lack of participation and low consciousness in the society. Like the study which was done by Nadwah (2014) who took the reading interest development program related to Metro city vision as the city of education in sub district west Metro. The study found out that the program has not been realized yet to increase

reading interest in the society and the several problem were the lack of people's participation and also the facilities and infrastructure which is not adequate. Furthermore, the another study was done by Oliveira (2010) who investigated about local brand of layout strategy plan in Portugal. The study found out that local brand can support the people's participation because it involves a lot of people. The contrary thing also found in this study, that the local brand from Metro city as the city of education cannot support people's participation. But people claim that Metro city has been succeed become the city of education. From this analysis, it is happened because of Metro city citizen are not know the reality of the city of education which are idealized and formulated by the government (even though it needs more researches according to this case). The citizens only see the condition of formal education in Metro city which is become better and excellent in Lampung Province. But, as the explanation before that from the beginning of the period Metro city declared as the city of education, and the formal education condition has been excellent in Lampung Province. The city of education which has been idealized is not only on formal education, but education values for all grades, profession, and circles.

In UU (Code of law) No.25 year 2004 about SPPN said that one of the purposes of the development plan is to optimize people's participation. For that Sjafrizal (2015) said that the good vision and mission of region foundation is taken from the people's will and aspiration as the main target of development. Conyers (1981) stated that some reasons about the important of people's participation in the development is the participation as the facilitator to get information about the condition, needs and the culture of society in every problem of development. Therefore, the government of Metro city has to execute the continuity socialization to increase people's participation to achieve the vision of Metro city as the city of education.

Practically, this research implies that the study of strategy evaluation in qualitative analysis gives less good result, but in quantitative analysis, in this case is people's perception, gives a good result. Thus, the finding in this research can be developed in the next research with the different context and substance. The next research can examine the strategy management theory from David (2004) with different location in Indonesia by using different indicator to assess the internal and external environment. The research which is suggested is also for assessing the vision of Metro city especially which focuses on the literation culture of the Metro city citizen

with larger respondent, which is expected can represent the entire citizen of Metro city.

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STUDENT'S INTENTION TOWARDS ENVIRONMENTALLY FRIENDLY BEHAVIOUR IN SURAKARTA, INDONESIA

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Abstract

The main goal of EfSD is enhancing people's environmentally behaviour. This research aims to reveal student's intention towards environmentally friendly behaviour. 117 student's participant from three prominent highschools of Surakarta were involved in this research. NEP questionnaire followed by interview were used to ascertain the degree of student intention towards environmentally friendly behaviour. A qualitative analysis were used to analyse the obtained data. The results of NEP measurement showed that student's intention towards environmentally friendly behaviour is low due to the misfocus of the applied biological curriculum.

Keywords: Behavioural intention, Environmentally behaviour

1. Introduction

Education for Sustainable Development (EfSD) had been proclaimed by UNESCO since 2004 which aim was to ensure the sustainability of our future generation through education [1]. Education for sustainable development is an educational vision which seeks equality between human and economic activities in order to respect culture and natural resources.

Education for sustainable development emphasizes in learning aspect which echoes its main purposes, which is education of protecting and managing natural resources [2]. The education of protecting and managing natural resources is designed to develop human population who is aware and care about whole environment and to create human being with knowledge, attitude, motivation, commitment and skills of caring environment [3]. Therefore, improving the amount of environmental education is important to develop a world population which is conscious and care to environment. Based on [4], the goal of environmental education is to develop a world population with knowledge, skills, attitudes, motivation and commitment to work either individually or collectively to solve current environmental problems and to prevent future possibilities.

Environmental caring behavior is influenced by several factors; one of them is the attitude toward environment. As [5], stated attitude is important factors in behavior.

Environmental attitudes can be defined as sensitivity or respect toward environment in terms of responsible attitudes towards pollution, technology, economics, conservation, and activity related with environment and its problem [6]. School is place where environmental sensitivity, attitudes and environmental behavior are formed. In developing countries, environmental education is considered an effective method for improving environmental attitudes among students [7]. Thus, environmental education needs to be integrated into the curriculum system of primary and secondary education.

The interesting part of Indonesian education is they integrated the environmental education with other subjects at secondary level, such as craft and entrepreneurship subjects and biology subjects. As [8], argued that middle school education played important role in improving students' awareness toward environmental. According to that notion, it is believed that students have a role in providing solution and encouraging behavior which tended to sustainable lifestyles, thus it is essential to know students' profile related with their attitude toward eco-friendly behavior. Moreover, appropriate program with suitable training activities can be designed to achieve this goal.

2. Method

This study examined students' intention toward environmentally friendly behavior. A qualitative approach was used to answer the

research question. The participants of this study were 117 student from three prominent high school in Surakarta, they are; SMA SMA Negeri 1 Surakarta, SMA Negeri 4 Surakarta, and SMA Negeri 5 Surakarta.

To measure the students' intention on environmental friendly behaviors, a questionnaire was created based on New Ecological Paradigm (NEP) which was designed by [9]. In order to fit the questionnaire with this study, the researchers did some revision. Students were asked to response to 15 questions on a five-point Likert scale (from 5= strongly agree to 1= strongly disagree), for the purpose of this study, negative statements (2, 4, 6, 8, 10, 12, 14) were reversed designed. Instrument

interviews which were guided by NEP statements were conducted to corroborate the students' responses.

The data was analyzed by scoring their answer statements. Furthermore, these score were converted into percentage and interpreted. Data interview was used to profound the results of NEP scores.

3. Result

The results of the students' intention toward environmentally friendly behavior using the New Ecological Paradigm (NEP) scale can be shown in Table 1. :

Table 1.Ten-grade Students' intention toward eco-friendly behavior

%	Total Number	Scale of environmentally friendly behavior
90-100%	-	Positive
80-89%	-	Positive
70-79%	9 (5,98%)	Positive
60-69%	92 (78,63%)	Negative
59% or less	18 (15,48%)	Negative

Table 1.shows based on NEP, 110 high school students in Surakarta have environmentally friendly intention under 70%. This indicates that most high school students in

Surakarta do not have the impetus to behave in an environmentally friendly manner.

The results of students' interview have some findings as shown in Table 2.

Table 2. Findings of students' interview

Aspect	Findings
Students	Most of students have appropriate knowledge about environment Students are able to understand the current environmental issues both in national and global context.
Teacher	Students deem that subjects related with environment is important Teachers are able to comprehend the subject which related bout environment
Curriculum	Teachers deliver the information using PPT There are sufficient hours for subject class The learning goals of eco-friendly environment are emphasized on the knowledge aspect of environment. The learning model doesn't facilitate students in experiencing real life situation (project based oriented or problem solving oriented)

Table 2.shows the results of interviews to students. The findings prove that they have good environmental knowledge;in addition the teachers also have good mastery level of environmental material. However, the school curriculum only focus environmental knowledge rather than to encourage students to behave in an environmentally friendly manner. The learning model used is also limited to conventional material; students had a very limited opportunity to have real experience on the environment.

4. Discussion

The results of data analysis show that most high school students in Surakarta do not have the attitude to behave in an environmentally friendly manner. The results were obtained after an assessment using a NEP questionnaire and it was followed by conducting interviews to support the results of the NEP score.

The result of the interview indicates that most participants have good environmental knowledge. Surprisingly, they are also aware of

the ongoing environmental issues. This result could be due to the fact that environmental knowledge is more emphasized than the attitude of the environment in the education curriculum of Indonesia [10]. The study found that not all environmental education objectives received the same attention in Indonesia. Components related to environmental knowledge are more emphasized, while some other components are ignored. These results are consistent with studies conducted in other countries [11][12]. These findings are in accordance with previous study conducted by [13], have good environmental knowledge. However, knowledge does not always lead to practice. Thus, there is a weak correlation between students' level of knowledge and sustainable environmental practices.

We observe that the environment knowledge can be more accessible for students to access from various media, while attitudes toward the environment need to be nurtured and practiced in high school. It is expected by having knowledge of environment can demonstrate behavior that is beneficial to their environment [14]. In other hand, having an environmental knowledge is not sufficient for people to show a positive attitude towards their environment [15] [16][17].

This research also found that the role of educational institutions which promotes environmental knowledge is enough to encourage eco-friendly behavior. However, the role of the family is also important to ensure environmental knowledge is achieved because it should be started first from the family. This is consistent with [18], who stated that environmental education should start from home because parents teach their children to respect the environment by engaging them in a sustainable culture.

Thus, it can be concluded that based on NEP, 110 ten-grade high school students in Surakarta have the intention to behave environmentally friendly under 70%. This indicates that most high school students in Surakarta do not have the attitude to behave in an environmentally friendly manner. They do not have positive attitude toward it. This phenomenon occurs due to the lack of emphasis on environmental attitudes in the implementation of the Indonesian education curriculum. Having knowledge about the environment is not enough for people to show a positive attitude towards their environment. Education intuition cannot stand itself to promote the eco-friendly behavior; it needs cooperation between school and family. This study suggests the curriculum should move from theoretical oriented into project based

oriented, for the purpose of developing environmental attitudes (practice, project, group work, discussion, case study, etc.).

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THE PROFILE OF STUDENTS' REASONING ABILITIES ON ENVIRONMENTAL POLLUTION TOPIC

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Abstract

This study aimed to describe the profile of reasoning ability junior high school students in 8th grade which has been learned environmental pollution topic in the 7th grade. The study was conducted in one of state junior high school in Bandung to study subjects were 28 students. The method that is used in this study is descriptive research. This study used essay test that contains three questions about air pollution, two questions about water pollution, and two questions about soil pollution. Problem reasoning ability tests made using Toulmin Argumentation Patterns (TAP), so as to encompass students claim, data, and warrant. Scoring is based on the assessment rubric, the highest score of any given problem to assess the students' answer is 3 and the lowest is 0. The total average score of 54,59 reasoning abilities of students with a standard deviation of 3.65. Based on these data we can conclude that the reasoning abilities of students are relatively low on environmental pollution topic.

Keywords: Reasoning ability, environmental pollution

1. Introduction

Learning science is an active activity because students are required to think scientifically and to apply the concept in order to overcome problems in daily life. Therefore, in science learning students are involved in cognitive processes that represent scientists' way of thinking such as posing scientifically oriented questions, seeking evidence in response to questions, compiling explanations based on evidence obtained, linking explanations with scientific knowledge, and communicating and proving explanations (NRC, 2000 in Dolan & Grady, 2010).

The involvement of students in the cognitive process of training students for science literacy. Science literacy or better known scientific literacy as learning objectives include the students' understanding of the nature of science and students scientific reasoning (Lawson, 2009, in Piraksaa et al., 2014)

The results for scientific literacy held PISA 2015, Indonesia was ranked 64 out of 72 countries in 2015 (OECD, 2016). It can be said that Indonesian students' science literacy is still low. The PISA questions have the characteristics: (1) thinking and reasoning; (2) The problem posing and solving; (3) communication; (4) modelling; (5) argumentation; (6) and using a symbolic representation; (7) the formal and technical

language and operations;(8) use of aids and tools (OECD, 2016). Based on that, one of them needed reasoning ability.

Reasoning is one ability that is important, because this reasoning involved in the process of analysing/solving problems, integrate/synthesise parts, designing/planning experiments, draw conclusions, make generalisations, evaluate and prove, and apply these capacities to unusual problems (TIMSS 2007 in Waldrup, 2012). Reasoning ability is very useful for students because it can help in decision making and problem-solving (Matlin, 2009). Another opinion, the reasoning skills that are involved in the process of inquiry, experimentation, assessment of evidence, drawing conclusions, and arguments to support changes in the conception or scientific understanding (Zimmerman, 2005).

Various studies on reasoning abilities of students in science have been widely studied (e.g. Eggert et al., 2016; Zeidler et al., 2013; Bao, 2009; Frutak, 2008). Students reasoning skills can be identified through the output arguments (Herawati, 2015). Students need strong evidence to make their arguments acceptable to others. The reasoning habit is important in everyday life because it serves to make the right and logical decisions about controversial issues (Yang and Tsai, 2010).

The controversial issue that is currently emerging in society is environmental pollution.

Environmental issues become an emergency issue since human domination against the environment one of them is exploitation of environmental resources, and the development of technology that is not environmentally friendly. Thus, education plays an important role in educating students to care for the environment.

Based on the above, the problem in this research is "how the reasoning ability profile 8th grade junior high school students on the environmental pollution topic?". In line with the formulation of the problem, this study aims to describe the student reasoning ability of junior high school 8th grade as measured through students' written arguments.

2. Method

The method used in this study is descriptive method. The study was conducted in one of state junior high school in Bandung in the even

semester of the academic year 2016/2017. Participants of this study are students of 8th grade, amounted to 28 students, with the duration of charging reasoning answers for 60 minutes.

The main instrument in this study is a set of reasoning questions with essay form. Reasoning questions prepared using Toulmin Argument Pattern (TAP). The reasoning questions used in this study has been validated by 3 experts and based on the validation result of the instrument is feasible to use.

The question consists of 7 questions, namely 3 questions to analysing the problem of air pollution, 2 about analysing the problem of water pollution, and 2 about analysing the problem of soil pollution. Each question has three points that must be answered to see claim, data, and warrant given by the students. Furthermore, to assess the students' answers using an assessment rubric adapted from the Zohar and Nemet (2002) as in Table 1.

Table 1. Reasoning Rubric through Argument Strength

Score	Description
3 (Strong)	Claim logical, supported by the grounds (data, warrant, backing) right * and relevant
2 (Self-Strong)	Claim logical, supported by most grounds (data, warrant, backing) right * and relevant Some claim logically, supported by the grounds (data, warrant, backing) right * and relevant Some claim logically, supported by most grounds (data, warrant, backing) right * and relevant
1 (Weak)	Claim logical grounds (data, warrant, backing) true * but irrelevant Claim logical grounds (data, warrant, backing) not right * and irrelevant Claim illogical grounds (data, warrant, backing) not true * but irrelevant Claim illogical grounds (data, warrant, backing) true * but irrelevant
*) the determination of "right" is based on the validity of the concept and my response rationality n contained on the basis of the filing of the claim, grounds (data, warrant, backing)	

Maximum scores that can be achieved by students in each question is 3 and the lowest score is 0. Then the raw score is converted into a

scale of 100, further categorised into very good predicate to less once follow the rule of Purwanto (2008) as Table 2.

Table 2. Category and Scale Values

Scale	Category
100-86	Very Good
85-76	Good
75-60	Adequate
59-55	Less
≤ 54	Less Once

3. Finding and Discussion

Table 3 shows that the reasoning abilities of students classified as less once seen from the

total average score. Question indicator with the highest average is analysed the impact of water pollution and the lowest is analyse countermeasures of water pollution.

Table 3. Result of Reasoning Ability Test

Aspects of Argument	Indicator	Problem No.	Score
Make a claim, data, and warrant	Analyse the causes of air pollution	3	60.7
	Analyse countermeasures of air pollution	1	54.7
	Analyse countermeasures of air pollution	2	60.7
	Analyse the impact of water pollution	4	64.7
	Analyse countermeasures of water pollution	5	33.3
	Analyse the impact of soil contamination	6	45.2
	Analyse countermeasures of soil pollution	7	63.0
Average Score Total			54.59

Based on table 3 it can be seen that students reasoning abilities are low with average score total are 54.59. Students can not use scientific knowledge in everyday life to the fullest. Questions used in this study requires students to be able to apply what they have learned in a problem but in fact, the learning process that students do not fully lead the students to it.

Question number 5 is the lowest average score of 33.3 with indicators Analysing countermeasures of water pollution. Question number 5 is a discourse related to the water filter, so students have not fully understood the water filtering tool as a solution to water pollution. In addition, the question with other low scores is question number 6. Students have not been able to thoroughly analyse the impact of soil pollution. Question presented related to the use of pesticides and their impacts on soil pollution. More than 60% of students provide weak arguments, especially in providing warrant and can not relate to the impact of soil pollution that occurred.

Question number 4 is the highest average score of 64.7 with an indicator to analyse the impact of water pollution. Problem number 4 related to the pollution of the river by the manufacturer of the textile industry in West Java. Students can provide a strong warrant, many students who argue that water is contaminated with harmful metals to use because it will cause various digestive diseases.

Based on observations, teachers are more likely to ask questions in the form of C1 (mentioning) and C2 (explaining). Thus, when students provide answers students are not asked to include reasons and evidence to support that answer. In fact, the teacher acts as an initiator in argumentative discussion activities through a series of questions such as, "Why do you think like that?, What is your reason?". Both of these questions can trigger students to find a reason/warrant. Other questions such as "how do you know?, what is your evidence?" can be used

to extract data/evidence that students have in supporting the answer (Osborne, 2001).

Results of interviews with teachers, students have not been familiarised with the questions that require reasoning. In addition, students are rarely held discussions to sustain the argument and provide strong evidence for the influence of other people agree with his opinion. It has been suggested by previous researchers that the reasoning ability can be developed through practice (Adey & Shayer, 1994; Chen & Klahr, 1999; in Chen & She, 2014) scientific reasoning can be trained through various activities such as discussions, lab work, exercises that require both the ability reasoned.

Argumentation is a process of communication in the form of written or spoken a very important role in science and should be taught and learned in science class as part of the inquiry and scientific literacy (Enduran et al., 2015). Students' ability to propose arguments can be stimulated through problems or questions that ultimately the students file a claim based on the data they have and the reasons underlying the submission claim. Students' reasoning ability can also be stimulated by the submission of an argument because students must be able to connect the evidence that they have with the proposed claim. The process of linking evidence to the claim involves reasoning skills, so the more often students are stimulated to argue with reason and evidence that is, the more often students are trained to reason.

Discussions are used in the classroom, referring to the free communication to express ideas between teacher and students and between students and other students (Salandanan, 2000). Discussions were held by students in both study groups and class discussions involving all students can improve students' reasoning (Osborne et al., 2001; Salandanan, 2000).

The inability of students to propose an argument that due to learning process in the classroom is still teacher centred and lack of learning activities that emphasise the process of

argumentation to stimulate students' reasoning abilities. Science program involving the implementation of the argument needed to improve the investigation and discussions in science lessons. Thus, students reasoning ability

can be trained by the program activities that familiarise students to argue. The distribution of the strength of students arguments can be seen in Figure 1.

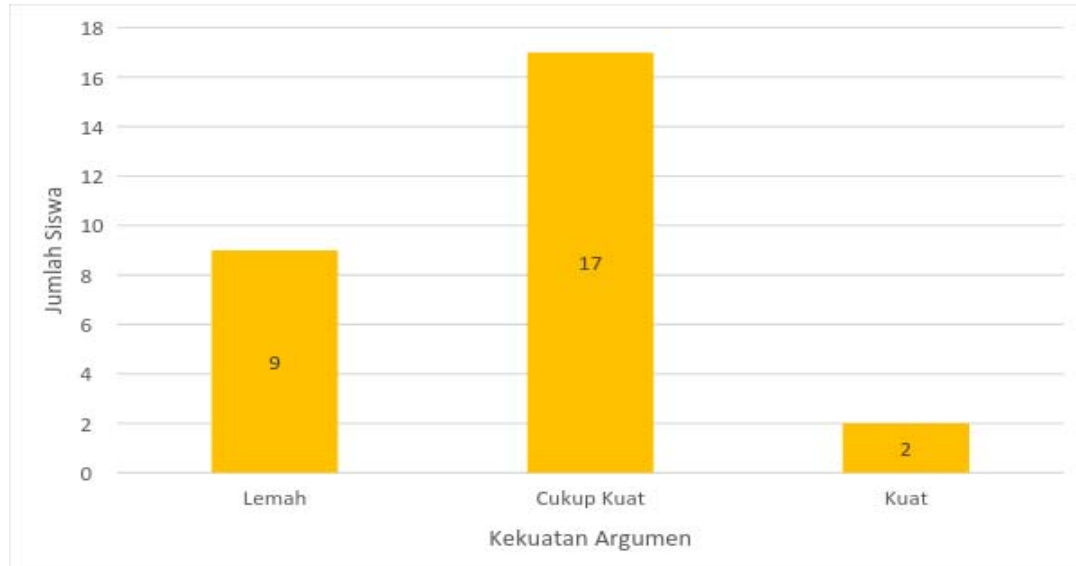


Figure 1. The Strength of Students Arguments 8th Grade

Mostly students argument including weak category can occur because the learning activities are undertaken by teacher not emphasise student to submit arguments mainly on socio-scientific issues. Observation results in schools when teachers evaluate students' answers, teachers only give correct or incorrect responses so that teachers do not explore the reasons and evidence that students can submit. Therefore, argumentation activities rarely occur effectively.

Some researchers (e.g. Lemke, 1990; Newton, Driver & Osborne, 199, in Mc Donald, 2014) revealed that the argument that rarely occurs effectively in science class can be caused because most classes are dominated by teachers so that less provides the opportunity for students to engage in argument. In addition, teachers also generally do not have sufficient skills to teach argumentation to students. Based on research Herawati (2015) factors that may affect students' reasoning are factors related to academic activities (teacher's questions, discussions, practical activities, classroom management, and understanding the concept of students) and non-academic activities (school programs).

4. Conclusion

Reasoning ability 8th-grade students in one of the junior high school in Bandung is low with a total average score of 54.59. In general,

students have been able to provide claims, data, and/or warrant, but the concept or scientific facts that are used as data and warrants is still weak. So the argument is invalid, rational and relevant. Therefore, teacher as a facilitator and initiator of learning process need to habituate students so that students' reasoning ability to reason logically to help solve problems in everyday life.

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INTEGRATION OF DISCIPLINE AND RESPONSIBILITY CHARACTER IN THEMATIC LEARNING AT ELEMENTARY SCHOOL

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Abstract

This research is aimed to obtain perspective on planning, execution, and possible obstacles of integration of discipline and responsibility character in thematic learning at elementary school. The methods used in this research is qualitative research methods. Qualitative method is used in this research with eight fourth-graders teachers in Pattimura cluster, Klaten as research samples. Research data consists of observation notes at actual teaching session and interviews. The result of the research shows that existing teaching plans are made in general and do not include teaching indicators that integrate discipline and responsibility character. However, in actual practice, teachers have integrated those characters into class activities despite being more focused on integrating discipline character than responsibility. Responsibility is introduced to students only in certain activities, while other characters are introduced occasionally. These characters are introduced to students by teachers' behavior and by discussing them in certain activities, but are not incorporated into current teaching material. Obstacles faced by the teachers in integrating discipline and responsibility include long preparation time needed to prepare teaching materials, other work load that needs to be done within the school and the community, and the lack of teachers' understanding on integrating discipline and responsibility character in thematic learning.

Keywords: integration, character, discipline, responsibility, thematic learning

1. Introduction

The current focus of learning process, as known by most people, still relies more on vast academic knowledge and less on character education. The result can be seen every day in television, radio, newspapers, or even in our neighborhood, where a lot of children tends to disobey moral customs. The examples of this disobedience are being late to school, littering, not doing their homework, copying their friends' homework and cheating on exams. These examples show that within the learning process, students are more encouraged to get vast knowledge, proven by high grades. This may be caused by parents' perspective which prioritize their children's good grades at school over their behavior and character, or teachers' lack of competence in delivering certain value and character that relates to everyday life to their students.

Nowadays, the importance of implementing character education aspects into students' learning process is gaining more attention in the country. Several activities are done to give students a necessary understanding towards character education aspects. This activities are needed to counter the increasing number of

deprivation in children's morals. Therefore, a lot of subjects at school starts to include character education aspects for everyday life in addition to the scientific aspects.

Elementary education, especially in Indonesia, started to conduct thematic learning in 2013 under the title of the 2013 Curriculum. Thematic learning is a learning system that integrates several competencies from various subjects into various themes (Ministry of Education and Culture of the Republic of Indonesia, 2013: 9)[1]. Thematic learning enables students to optimize their knowledge. In thematic learning systems, the students are expected to also understand character education through the teacher. G. Skaggs & N. Bodenhorn (2006) states that character education encourages behavioral improvement [2], therefore thematic learning process is expected to give the understanding of character education in addition to scientific knowledge for the students to improve their behavior.

Character education should be delivered to students besides scientific knowledge because it is believed as an important aspect to improve human resource quality, thus determining a nation's progress (H. Gunawan, 2012: 28)[3]. Character education consists of several aspects

that need to be understood and implemented by students in their everyday life. According to Ministry of Education and Culture of the Republic of Indonesia (2010: 9-10) character education materials for learning includes, for example: religious, honest, tolerant, discipline, hardworking, creative, independent, democratic, curious, nationalist, loving the home country, respecting achievement, friendly and communicative, loving peace, eager to read, environmentally & socially considerate, and responsible [4]. These aspects should be given to students for them to be able to behave accordingly.

Nowadays, a lot of behavior deprivation of students can be found especially within the school area. According to a research by X.P. Ding, Danielle S.O., Angela D.E., Genyue Fu, Guopeng, dan Kang Lee. (2014), kids tend to have poor behavior, one of them in the form of cheating, which is commonly found [5]. Students tend to aim only for higher grades instead of understanding the character education lesson behind it. Discipline and responsibility are the most important characters among others to be understood by students. There are a lot of problems related to students' discipline and responsibility that can be found in the learning process. At a research by M. Demire, D. Ozmet, and I.O. Elgun. (2016) it is shown that nowadays student lack of respect and responsibility, and they believe that character education conducted at schools is not enough for student [6]. Students' textbooks also do not include in-depth understanding and examples of character education in them, resulting in the lack of understanding on the meaning of several aspects of character education.

Several behavior deprivation of students show that the implementation of character education in learning system is obligatory in order to prevent further deprivations. Addition of character values into learning systems does not only make students smarter, but also enables them to understand good characters to adopt to themselves, which will benefit each individual and also the society. According to S. Guven, A. Ozturk, and S.N. Duman. (2016), character of responsibility is very important for students to

create responsible individuals in the future, and there needs to be a curriculum that includes the immersion of responsibility character in learning activity [7].

Based on this condition, a research is conducted as an attempt to obtain a perspective on the integration of discipline and responsibility characters into thematic learning of public elementary schools in Pattimura cluster, Klaten.

2. Method

Qualitative research method is used in this research. Qualitative research is a research method used to assess scientific objects in which the result emphasizes the meaning rather than generalization (Sugiyono, 2015: 9) [8]. Research results are written as it is, in the form of descriptive text. Sample for the research is eight teaches of fourth-grade students in public elementary schools of Pattimura cluster, Klaten.

Data for the research is obtained by observation and interview of the teachers. Class activity observation is aimed to understand the teaching plan and actual practice of teaching. The teaching plans are assessed on whether or not they include indicators of discipline and responsibility. Class activity observations are done afterwards. Observation result consists of teachers' activity and students' condition during class, which will be analyzed using observation checklists according to research needs. Teacher interview takes place afterwards to obtain data on teachers' obstacles of integrating discipline and responsibility in thematic learning at elementary schools. Interviews are done using interview guidelines that is specially made to obtain obstacles in integrating character education in thematic learning and to understand type of character education given by teachers in class activity.

3. Results

Research result on teaching plan condition in accordance to integration of discipline and responsibility character in thematic learning at public elementary schools of Pattimura cluster is as follows:

Table 1. research result on teaching plan condition

No.	Indicators	Percentage
1.	Teachers attend 2013 curriculum workshop with emphasis on thematic learning activity.	100%
2.	Teachers implement thematic learning in class.	100%
3.	Teachers can deliver thematic learning according to guidelines and principles.	62,5%

No.	Indicators	Percentage
4.	Character education has been implemented into indicators in teaching plan.	0%
5.	The objective of integrating character education into thematic learning is included in the teaching plan	0%
6.	Teaching plan has included some character education that will be given in the class	25%

The result of class observation and teacher interview analysis are as follows:

Table 2. Integration of discipline and responsibility character in thematic learning result

No.	Type of character taught	Percentage
1.	Discipline	100%
2.	Responsibility	37,5%

From class observation and teachers interview, it is found that discipline character is more often brought up by the teacher than responsibility. Responsibility character is brought up to the students occasionally on certain condition that is considered relevant.

Obstacles faced by the teachers on the integration of discipline and responsibility

character in thematic learning vary, mainly because teachers do that without a proper plan. Teachers will bring up character education lesson when a certain event or condition happens and can be related with character education. Table below shows teacher interview result in integrating character education understanding in thematic learning at elementary schools.

Table 3. Obstacles in integrating discipline and responsibility characters in thematic learning at elementary schools

No.	Indicators	Condition
1.	Obstacles in integrating discipline and responsibility characters in thematic learning at elementary schools.	Teachers do not have enough time to compose teaching plan for each day. Many teachers make their teaching plan simply covering general requirements, without properly adjusting specific character education that may be relevant with the teaching material. Character education aside, there are already a lot of teaching materials to be delivered so the character education aspect is yet to be properly planned.
2.	Complaints in integrating discipline and responsibility characters in thematic learning at elementary schools	Teachers have difficult time adjusting specific types of character education to be given in different teaching topics, because they have a lot of work to do at home and in their society. Therefore, creating a specific teaching plan that includes character education aspects will take longer time.

4. Discussion

Integration of discipline and responsibility into teaching plan of thematic learning at fourth grade public elementary schools of Pattimura cluster is not optimized yet. This issue can be seen from the lack of indicator that specifically mention character education in the teaching plan for the students. Despite having attended a workshop on 2013 Curriculum that emphasizes thematic learning, a lot of teachers still have a

lack of understanding about the system guidelines.

100% of fourth grade teachers from public elementary schools in Pattimura cluster didn't describe the integration of discipline and responsibility character, or even any other character education aspect in their teaching plans. They usually deliver the character education lesson verbally without prior plan. However there are two teachers that already mentioned character education-immersed

activities in their teaching plans, albeit not in every teaching subjects.

Teaching plan made by respective teachers in each class activity is not utilized to the maximum extent, since a lot of teachers rely on a generic teaching plan that will later be developed according to needs and condition during class activities.

The content of teaching plans is also lacking, because the teachers had to struggle to develop teaching materials for each session. On the other hand, thematic learning system requires teachers to be able to develop teaching materials for their students. The understanding of discipline and responsibility character is mostly delivered during the beginning of class activity and on assignments, both individual assignments and group assignments. These understanding is also delivered when a certain condition that is relevant for character education lesson occurs.

On practice, all the fourth grade teachers in the research have implemented thematic learning during class activities. All teachers also conduct the thematic learning by integrating character education aspects that need to be understood by the students. Despite being delivered in a thorough sequence, there is barely an improvement of teaching materials from student textbooks. Teachers only deliver what is in the textbook rather than developing them, because searching for additional materials that aligns with the basic competence takes time. Teachers in this research tend to prioritize material delivery to the students and point out several character education aspects during class activities.

As a matter of fact, students' textbooks do not include any understanding towards character education aspects. However there is a guidebook for teachers to determine character education aspects to deliver to the students. The character education aspects are not delivered evenly to the students as several characters were brought up more often than another. Discipline character is one aspect that 100% of fourth grade teachers in this research often give to the students. Another character is responsibility, which is delivered by two fourth grade teachers. On the other hand, there are 18 character education aspects that needs to be understood by students, according to Ministry of Education and Culture of Republic of Indonesia (2010: 9-10). These other character education aspects are given occasionally to the students in adjustment to current activities or relevant teaching materials.

On average measures, teachers always try to give students the understanding of discipline and responsibility character. There are a lot of school situations that needs discipline acts, so

lessons about discipline character are needed almost every day. Some lessons about discipline that teachers usually give out are reminding their students to arrive at school before 7 a.m., making sure the students attend flag ceremony with respect, and telling students to obey the rules during examinations. These reminders indirectly gives an understanding of discipline character to the students. As for responsibility character, the examples of lessons given by the teacher are giving back pencils after borrowing it and doing homework as a responsibility of a student.

Obstacles faced by teachers in practicing thematic learning are struggle of implementation and other responsibilities besides teaching. In thematic learning, teachers are expected to improve the teaching material provided by textbooks. On the other side, some of the teachers are busy with certification process and structural position raise. There are some teachers who make up the lesson plans in general, but some teachers plan their lessons by downloading the material and then adjusting to their classroom conditions that take a long time.

Teachers need long preparation to make a specific teaching plan that integrates character education into students' learning process. If not prepared thoroughly, the outcome of the teaching process may not match the plan as expected. In the planning process of a thematic learning, teachers also struggle to detach from the previous curriculum. As the result, the thematic learning feels like separated subjects and the integrated characters are limited to discipline and responsibility.

Besides needing to prepare their teaching plan, teachers also need to complete various tasks at school, such as managing and improving class activities. Teachers are also expected to communicate with students' parents to cooperate towards their mutual objective for the children.

The teachers' responsibility doesn't end at school as they are also members of families and neighborhoods. Their house chores also needs to be done, and as a member of the neighborhood, they also need to socialize and attend neighborhood events. The lack of teachers' understanding on integrating discipline and responsibility in thematic learning also contributes to this.

5. Conclusion

Based on the research result, it can be concluded that teachers of fourth grade students in elementary schools at Pattimura cluster of Klaten have not included teaching indicators that integrate discipline and responsibility characters

into their teaching plan. However, in actual practice, teachers have integrated those characters into class activities despite being more focused on integrating discipline character than responsibility. Responsibility is introduced to students only in certain activates, while other characters are introduced occasionally. These characters are introduced to students by teachers' behavior and by discussing them in certain activities, but are not incorporated into current teaching material. Obstacles faced by the teachers in integrating discipline and responsibility include long preparation time needed to prepare teaching materials, other work load that needs to be done within the school and the community, and the lack of teachers' understanding on integrating discipline and responsibility in thematic learning.

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CLASS ELECTION: THE COPE OF CONSTRAINTS TOWARDS VOTER EDUCATION SUSTAINABILITY

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Abstract

This study aims to describe the implementation of voter education class shaped the election conducted by the Commission in cooperation with MGMPs Padang Civic Education (Civics) SMA/SMK/MA Padang. This type of research was descriptive qualitative research. The selection of informants are using purposive sampling technique. Types and sources of data are the words and actions, writing sources and collected images through interviews and documentation. Analysis of the data used was data reduction, data display, and conclusion. The validity test of the data was done by triangulation. The findings showed that there are some obstacles in the implementation of electoral classes: (1) the timing of the elections are relatively narrow class; (2) the determination of the participants who did not use the system as well as the class representative; (3) the class module elections could not be applied outside of school goals. Therefore, to the front of the election should be carried out by integrating them into Civics syllabus. This effort at least contains some advantages: (1) the efficiency of time because it does not require special hours; (2) it does not interfere with other subject matter in the Civics syllabus. Class elections was a form of voter education which have purpose at improving citizens' political awareness, political participation of citizens through the provision of the right to vote in general elections properly and responsibly determine the course of the democratic process in Indonesia. Educational approach in the deliver of the electoral materials was necessary for citizens to be introduced on the rights and obligations as citizens early and avoid the ways in doctrine active.

Keywords: Voter Education, Election Commission of Padang, MGMPs Civics SMA/SMK/MA Padang

1. Introduction

The general election is a core requirements as well as the measure of democracy. The results of the general election was held in an atmosphere of openness with freedom of speech and freedom to organize is considered to reflect a fairly accurate participation and public aspiration (Miriam Budiardjo, 2013:461). But in fact there is a general election with the level of political participation is low. In other words, relative many citizens who do not use voting rights or known by *golput* or using the right to choose but only to just run these rights without really understand the importance of the general election. Against this problem, one of them can be reduced through education voters. According to Nur Budi Hariyanto (2012:144) voter education contained about the understanding of the electoral procedures for citizens who have been entitled to choose. It is hoped that this education from beginner voters participate by coming to the Vote Centers to choose. Not only that, they are expected to monitor the way the election, at least

the event must be in accordance with the correct procedure.

Civic Education is a vehicle for the implementation of voter education in schools. In the citizenship education curriculum (this game also helped) Senior Secondary material about elections and democracy are studied in class XI. Consulting the Teachers of Civic Education High School (MGMP this game also helped SMA/MA) is an association the teachers of Civic Education secondary school level in the City of Padang. MGMP this game also helped the cooperation with the commission the City of Padang in educational implementation of voters against learners. This cooperation is done considering the delivery of election material is an integral part of the Civic Education (SumbarOnline.Com/Senin, 22 October 2012 - 17:59:44 WIB). Voter education cooperation done ahead of the election of the Mayor and Vice Mayor of The 2013.

The class is part of the general election voter education conducted by the Election Commission the City of Padang and MGMP this game also helped, done in 5 area manager that is

specified by the Commission the City of Padang. This research done Area Manager Pauh-Kuranji, there is 2 (two) school which is determined by the election Commission of Padang as target schools classroom activities election, namely SMA N 9 represents the secondary schools in the sub-district Pauh Village Head and SMA N 5 represents the secondary schools in the sub-district produced small. There are several reasons in the determination of the area manager Pauh-Kuranji as a research location: First, the number of voters beginners. Learners who have the right to choose in these two schools is big enough in SMA N 9 there are around 300 learners while in SMA N 5 there are around 325 learners. Second, golput figure in the sub-district Pauh Village Head and produced small countless high enough. Second, golput figure in the sub-district Pauh Village Head and produced small countless high enough. In the sub-district Pauh Village Head, there are 37.544 people registered in the list but around attained 15,398 people are not using the right to select the alias golput. While in the sub-district produced small, from the total 87.421 people registered in the voters list, around 36.927 people do not use the right select. Allows from 15,000 people more who do not choose in the sub-district Pauh Village Head and 36.927 who also does not use the right to select in the sub-district produced small there are learners who are voters beginners. Third, school status, SMA N 9 and SMA N 5 is the leading schools in each sub-district so that students studying in the school is a smart learners and critical so that they have a concern for election information that has been given and awareness to hasten.

Voter education urgent given to voters beginners because of the lack of experience and the limitations of the knowledge that belongs to so that they are susceptible to not use the right to choose and have a relatively low awareness of the meaning and strategic role of the general election in the state of Indonesia.

2. Method

This research used qualitative descriptive method, author aims to describe the process of the implementation of voter education in the form of the class election which is done by the Election Commission of Padang cooperation with the MGMP of civic education SMA/SMK/MA of Padang. The election of informers research was done with the technique of purposive sampling. The type and the data source is the words and actions, written source and photos collected through interview and documentation. Analysis of the data used the data

reduction, display data, and the withdrawal of the conclusion. Test the validity of the data was done by means of triangulation source.

3. Findings and Discussion

The class is part of the general election voter education done by the Election Commission counties/City as regulated in Act No.15 2011 about Election Organizer. An elaboration of more information about the obligation of the Commission/cities in the event of socialization of the election set in the Regulation of the General Election Commission (PKPU) No.11 2010 about the socialization of Regional Head and Vice. Voter education/Voters Education is not a program that can only be done by stretching back a latrine Elections but more to the pattern of sustainable activities from time to time. As part of the effort to take part in the role of the voter education for the community especially the beginner selector, then the General Election Commission Padang City realize the activities through the Program Class elections. The goals of the class activities of the election is still a beginner voters sitting on a bench high school. The class the election held by the Election Commission of Padang, this is the result of a study visit to the election commission Bantul District.

According to the election commission Module: Election for beginner (2010:48) Voters beginners is the voters for the first time using the voting rights because it has been eligible to choose. Beginner selector is one of 11 (eleven) the target groups in the implementation of socialization and delivery of Election information as regulated in Article 7 paragraph (1) PKPU No.10 2011 about the Guidelines Implementation of socialization of the implementation of regional head elections and vice regional head. Cooperation with various parties that done by the Election Commission of Padang especially with this game also helped MGMP done in considering the creation of an intelligent selector and quality general elections is not just the responsibility of the election organizer solely but all elements of the nation. Voter education class shaped the election held by the Commission the City of Padang done with tries to election module class that have been arranged earlier.

The activities of the election dki using the BRIDGE method (Build Democracy Resources, the government and the election)". The BRIDGE method help learners understand the stages of general pemilihan through senses owned. Learners hear the given materials, see

examples shown through the slides and materials image by come, practice the materials provided through the materials and equipment that is used in the election process directly as voice box, chambers, voice mail, until directly involved as executive general elections. This is a new thing for learners because they do not have previous experience in the election process. The implementation of class election by the Election Commission of Padang in cooperation with the MGMP have a few obstacles in the field both from internal and external. Obstacles found in the implementation of the class of the election will be explained and discussed as follows:

First, the implementation of the class election which is too narrow. The allocation of time specified in the election module class is around 120 minutes but in its implementation is only conducted for 90 minutes. The problem of implementation time become constraint due to convey the material of the general election that quite many and more in-depth like that had been arranged in election module class and interspersed with games and group discussion and simulation needed a long time. The material class of the election should not be submitted in outline for the purpose of election class is the dissemination of information about the general election in detail to voters. This is done by considering the importance of the role of the class of the election as a form of voter education to the community mainly voters beginners. According to the Voter Education Network/Coordinator JPPR (2014), voter education is a process that has a strategic role for the general election. This process is not only to provide an understanding of the techniques and procedures for the election and the things that are other technical, but can touch on the value is pointing on the meaning and the important role of the general elections to the community. It is expected that there will be a change in the mindset of people not only assume the general elections as a selection routines once five year. In the public order, voters smartphone has the position and the role of that very strategis to create democratisation. Even so, in some schools class activities the general election was held on Saturday but the implementation is also no longer. The general election was held class usually via hours 10 to the first of course is not in the schedule this game also helped subjects, of course interfere with the school schedule and then because of the time only a little less than 2 hours of course the target of this election class less reached also means implemented in time-time that less accurate. There are some schools that the election was conducted in class hours

return schools. It was the first can disrupt the breaks the students themselves where the times of drowsiness usually.

Second, the determination of the participants of the general election which does not use the class representative system as applied in SMA N 9 and SMA N 5. The strategy implementation of election class previously planned that learners who follow the activities of the election comes from the representatives of the class so that later they who attend classes this election can deliver information to their friends in their own classes in relation to the matter the general election they get. The Election Commission City of Padang has previously requesting delivery participants through the representative of the class but school gives learners in one local without mixed with students from other classes. Beginner selector is important to get full information about the general election one only through class the election because some factor such as mentioned by Nur Budi Hariyanto (2012:129) that voters beginners are often described as follows (1) voters who still unbalanced and tend to be apathetic; (2) voters who have knowledge of the politics of relative low; (3) voters who tend to be dominated by the group (peer group); (4) voters who do elect because aspects of the popularity of a political party or candidate proposed political party; (5) voters who come to the vote centers simply cancel or invalidate the right. Based on the above characteristics, voters beginners relative does not yet have the knowledge and understanding of the general election is good and tend to be used for certain political interests.

The system of the determination of the participants through the representative of the class well enough because of the general election information can be delivered by the participants to his friends informally as while discussion and chat in the class so the atmosphere became more relaxed and they can also exchange of mind because it does not feel awkward with one another. In addition, the determination of the class participants of the election by representatives of the class is also the strategy of the commission to solve the limitations of the Election Commission in terms of time and energy to include all learners class XI. Participants in the class election which is not derived from the representative of the class of course inhibit the purpose of the commission in providing the even distribution of the general election information to all learners class XI. Schools tend to only take practical steps to provide one class because it was considered to be able to inhibit the lessons in progress in each

class. If the participants of the election class only from one class only then infomasi general election which will they get will not spread evenly at least to each class XI.

Third, module class election relatively cannot be applied on the outside of the target schools class elections. The election commission of Padang only specifies 11 target schools implementation of election class so that other schools outside the school targets are not visited by the election Commission of Padang to the implementation of the class of the election. This causes the beginner voters who attend outside the target schools did not get the information about the general election in a more complete. According to Nur Budi Harianto (2012: 130) voter education is important to the voters remember beginner selector is often considered new on stage acceptance (acceptability) and have not yet come to the political choices. The general election materials given in the class of the election is not only intended to invite voters using voting rights but also foster his realisation as early as possible about the meaning and importance of the general election so that the beginner voters will no longer be the object of a particular political interests during the process of the general election in progress. If the module class election could not be applied in schools that did not become target schools and the purpose of the election commission of Padang to increase the participation of the main selector beginner voters not achieved because of the understanding of the information the general election is still limited.

Based on explanation obstacles to the implementation of the class election which has been explained above, this research provide the solution in the form of inputs for motivating the efforts that can be done as innovation for the implementation of the class of the election as part of voter education sustainable development, namely through the integration of the activities of the election in class syllabus subjects civic education. This can be done by considering the matter of the general election is an integral part of the subject Civic Education. Voter education is one of the way to form the pattern of understanding and political awareness of the people to explain how the election was established and assessed the implications for the general election for his life and the consequences of what will be accepted by wishing in the election process in relation to the political choices. To realize the wishes, then the class of the election must be inserted into the syllabus of this game also helped so that later in the implementation is not only supported by this

game also helped teachers as facilitators but also supported by the school. According to the Election Commission Module for beginner (2010:48) The Commission was assisted by other related parties must be able to provide a good initial impression about the importance of using the right to vote in the election.

The knowledge and a good understanding of the process of the general election is expected to be a motivation to become voters smartphone and responsible. The material *kepemiluan* is one of the material in *pancasila* education and citizenship, but material special elections do not always there along the Civic education syllabus from class X, XI and XII SMA/SMK/MA. In the curriculum of civic education SMA/SMK/MA, materials about elections and democracy are studied in class XI. In the material contained on the basis of the law of the general election, understanding elections, the election system, participants elections, until the relationship between elections and democracy. Therefore, civic education plays an important role in increasing the knowledge and understanding learners especially for those who fulfill the requirements as voters to be able to transmit the voting rights in a smart and responsible. To create a sustainable voter education, election materials can be integrated into the learning the RPP through the material related to the election as the political culture and system of government. This was handed over on wisdom and a sense of responsibility of teachers in the form of learners to become a smart and rational voters to realize active citizens and participative.

The MGMP of civic education plays an important role directly, Citizenship teachers in the integration of matter election in RPP through discussions with related to the material election that can be integrated into the competency standard (SK) and basic competencies (KD), the method used, media needed to *straegi* are needed to not reduce the achievement of the purpose of integration SK KD related. This is done so that the voter education can be ongoing, does not require the time or special schedule that can add the burden of learning learners. This step is supported by pocket books election made together by the Election Commission and the MGMP of civic education so that the learners have ingredients that will be discussed in every meeting allows Citizenship teachers monitor the understanding of the learners related materials election. The election commission of Padang later can also provide entrepreneurship or a kind of technical assistance/technical guidance to this game also helped teachers so that they can convey the general election materials to learners.

This is done in considering the ingredients or topic that is taught by this game also helped teachers also many, not only the problem of election, sometimes this game also helped teachers also do not have concern with the problem of *kepemiluan* so that in explaining the matter of the general election to the learners only in general only according to that which is in the syllables. In addition, the mechanism and technical general election also has changed such as the procedures for the voting.

The efforts are offered for the implementation of the effectiveness of the class of the election to the front of the revealed by the Head of the election commission City of Padang at least have some advantages compared with the way the implementation of previously, namely: *First*, the implementation of the class of the election is no longer hindered by the problem of the narrow time because provided some meeting times in hours this game also helped lessons associated with the matter of the general election until the time of the giving of the material become more length so that the participants can be more asked about the materials that is not so understood. *Second*, class participants of the class election is no longer derived from the class representative system but the material class of the election is given to all learners because the material presented in the hour lesson so that this game also helped the general election information become more evenly to all learners. *Third*, election material can be integrated into syllabus of civic education, so that the teacher has set a time for the delivery of the material of the general election and the materials lessons this game also helped other related with the process of democracy in accordance with the curriculum 2013. For example, while learning about the rules and regulations can be integrated on legislation regarding the election into it as the legal basis of the establishment of the election in Indonesia.

4. Conclusion

The class is part of the general election voter education which is designed by the Election Commission as the organizer of the election in cooperation with the teachers of citizenship education, this strategy is done in considering election material is an integral part in citizenship education. But in the implementation of the class election, there are some problems that is found in the field in the class activities of the election, (1) the implementation of the class election which relatively narrow; (2) the determination of the

participants of the general election which does not use the class representative system; (3) module class relative election could not be applied in the outside of the target schools class elections. The next effort that can be done as innovation to overcome the obstacles to the implementation of the class of the election can be more effective is to integrate the activities of the election/matter *kepemiluan* class into the syllabus of subjects Civic Education so that the delivery of the material class of the election does not need special hours and does not interfere with the subject of other materials as well as the delivery of the material to become more long.

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PICTURE-STORY BOOK BASED ON SCIENTIFIC APPROACH THROUGH DISCOVERY LEARNING METHOD

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Abstract

The form of picture-story book as a learning material that compatible with implementation of “Kurikulum 2013” is not available. Picture-story book as an innovation of learning material book for student which filled with some story is needed for student’s learning. Stories are based on scientific approach through discovery learning. One means in which the story step is covering the steps of scientific approach. Picture story book based on scientific approach through discovery learning is the development of learning material for grade 3 elementary student. This study aims to produce the picture story book based on scientific approach through discovery learning which is eligible for used by elementary student.

The kind of this study was part of the development research. Development procedures adapted by Borg&Gall procedures with steps including: (1) Research and information collecting; 2) Planning; 3) Develop preliminary form of product; 4) Preliminary field testing; 5) Main product revision; 6) Main field testing; and 7) Operational product revision. The preliminary field testing subject consisted of 6 students at grade 3 from School A in Yogyakarta. The main field testing consisted of 15 students at grade 3 from SD B in Yogyakarta. Data collection instrument is in the forms of validation sheet by experts and questionnaire responses by students.

The results showed that this picture story book based on scientific approach through discovery learning developed valid for use. This matter is known by the expert assessment and the students response at schools.

Keywords: picture story book, scientific approach, discovery learning

1. Introduction

Currently, Indonesia is trying to realize the ideals of the nation in the field of education which is listed in UUD 1945. One of the ideals of the nation is the intellectual life of the society. For the intellectual life of the society of course in serving the education must be quality for all children of Indonesia. Improving the quality of education is not easy, the need for innovations and efforts in preparing the nation's youth to face the increasing complexity of the future. In order to create a quality education, the application of thematic learning will be better done with a scientific approach. Learning activities with scientific approach as intended include activities of observing, asking, trying, processing, presenting, associating, and communicating. Learning with scientific approach promises a quality education product in accordance with the demands of the times, because it can lead to activities that are scientific and encourage children to work scientifically. This is because learning must be able to develop things that are more than knowledge, but also process, creativity, attitude, and application.

In the learning activities should insert a learning method that support the scientific approach, where could pass some activities like observing, asking, trying, processing, presenting, associating, and communicating. Based on Permendikbud No.103 year 2014 Pasal 2 explains that learning activities use approach, strategy, model, and method which referring to several activities with characteristics that support scientific approach. Various characteristics are; 1) interactive and inspirational; 2) fun, challenging, and motivating learners to participate actively; 3) contextual and collaborative; 4) provide sufficient space for the initiative, creativity, and independence of learners; and 5) in compatible with the talent, interest, ability, and physical and psychological development of learners.

Need analysis for learning resources has been done specifically in analyzing the textbook material used by students. Books which used by students in learning activities is the form of K13 student’s book from the government. At the same time, the one and only book from government is used by teachers as a reference in making the implementation plan of learning. In the teacher’s

book there are scenarios of learning, although the learning scenarios are detailed clearly so as to facilitate teachers in making the planning, but it resulted in the lack of creativity of teachers in making learning resources that more interesting. There are many books for students that can be used as a source of learning in the library school, but the book did not contain a scientifically contented story on the step story. Usually, student's learning resource books are too much material intake, so students could not construct their own subject matter. This means less stimulating high order thinking skill students. Students will read the book more often than do something or experiment about the subject matter. Learning activities will be more meaningful when students do the learning by involving the hands-on / minds-on/and hearts-on learning. In addition, the book has been used as a learning material less color and image, so that is not attract students' attention.

The result of need analysis questionnaire that was given to the students of grade 3 as a whole concluded that most students liked reading, especially on child's story reading which there is illustration and colorful. As many as 80% of students from SD A and 75% of students from SD B have children story books with more than five titles in their homes. Most students love picture books with interesting colors and pictures. According to the most students, the text book is too heavy and the material content is too much. The K13's book have been confusing students, the students prefer to study with the other books like story book, science fiction, and others.

Book is a window to the world. Books can bridge children to understand and see the outside world through reading activities, whether read by the children themselves or read out others. Books that consumed by children are different from adults. Winch (in Nurgiyantoro, 2013: 7) assumes that a good children's book is a book that delivers and departs from the child's lens. These assumptions underlie that books consumed for children should come from the child's point of view as the center of telling.

The child's motivation for reading is seen from the images contained in the book, in accordance with the cognitive development of elementary school children who characterize the world of children which full of hope, happiness, and colorful. This can be reflected in a picture book whose story is tailored to the child's developmental level. Mitchell (2003: 87) defined picture storybooks are books in which the picture and the text are tightly intertwined. Picture book books are books where there are images and texts

according to the storyline. The meaning of the picture book is added by the opinion of Huck, Hepler & Hickman (1987: 197) that picture book is a book that conveys the message through two ways, namely through illustration and writing. Related to this, Nurgiyantoro (2013: 152-155) explained about picture books in a narrow sense and broad meaning. The narrow meaning allows this book to be viewed as a picture book format, meaning books in which there are images, while the broad meaning is that it can include different types of picture books, picture books, information books, concept books, arithmetic books, etc.

As an assumption from Nurgiyantoro (2013: 68), the groove keeps everything that tells moves and takes place. A story for grade 3 children should provide a coherent and clear storyline, since student reasoning is limited. Meanwhile, according to Lukens (2003: 97) flow is a sequence of events that show the behavior of characters in the action.

Nicholas (2007) added that the story will be difficult for the reader to understand without any connection between the text and the illustrations, for good text and illustration must be in balance. Illustrations in picture books should attract children's attention. The illustrations are clear, colorful, communicative, and displayed variably (almost) on every page of the book. The story in the picture book has elements of the story as follows; 1) theme, 2) plot, 3) background, 4) style, and 5) characterization.

Daryanto (2014: 51), learning with scientific approach is a learning designed so that students can actively construct concepts, laws or principles through several stages such as observing, formulating problems, proposing / formulating hypotheses, gathering information / experiments, Associate / process information, and communicate. This opinion implies that the scientific approach has stages in line with the scientific method. Just as Kurniasih (2014: 53-56) argued that the scientific approach has several learning processes designed to enable learners to actively understand concepts and principles through several steps: observing, questioning, gathering information / experimenting, associating or processing information, and communicating. The opinions of such experts refer to Permendikbud No. 81 A Year 2013 Pasal IV, ie the learning process consists of five basic learning experiences; 1) observe; 2) questioning; 3) collect information / experiments; 4) associate / process information; And 5) communicate.

According to Sani (2014: 97-98), discovery is to find a concept through a series of data or

information obtained through observation or experiment, while discovery learning is a cognitive learning method that requires teachers to create more creative situations that can make learners actively discover their own knowledge. This is in line with Petter (2002) that revealed discovery learning is a learning situation in which the principal content of what is to be learned is not given but must be independently discovered by the student.

According Zuhdan Kun Prasetyo, et al (2001: 1.7) discovery learning is usually divided into two, namely free discovery (discovery discovery) and guided discovery (guided discovery). In the implementation of the guided discovery guided discovery is more common because with guidance teachers will work more directed students in order to achieve the goals set. This is in line with the opinion of Carin & Sun (1989: 91-91) associated with the form of the method that is, free discovery, where students are most active and the teacher acts as a facilitator (less dominant and in the "background") for developing student skills. Teacher dominance is low. Between the extremes of the teaching continuum is guided discovery, where teacher is active and a facilitator and students are active as well.

From various viewpoints of these experts, the product developed in the form of picture story books. The story presented contains a scientific approach that inserted discovery learning method in the storyline. Previous research developed comic books as part of a picture-story book which developed by Hengkang Bara (2015). It was found that comic book based on character education on integrative thematic learning has been valid and improve the character of student discipline. Together with other studies which developed by Lestari (2016) about comic as a learning media has been valid and could improve analytical thinking ability and scientific attitude.

Based on the need analysis, hereby researcher did a research and development of picture story book based on scientific approach and discovery learning for the student grade 3. This book is expected to answer the needs of teachers for learning resources in the form of a picture story book based on scientific approach through discovery learning.

2. Method

This research used Research and Development model. Borg and Gall (2003:569) defined Educational R&D is an industry based development model in which the findings of the research are use to design new products and

procedures, which then are systematically fieldtested, evaluated, and refined until they meet specified criteria of effectiveness, quality, or similar standards.

Research and development product was to know validity and feasibility of picture story book based on scientific approach through discovery learning.

This method included with steps:

1) Research and information collecting;

Researcher did preliminary research and collected information. Analyze the need by interviewing the grade 3 teachers and study documentation of student learning outcomes. This needs analysis aims to know the teacher's view of learning resources in the form of textbooks that have been used, to get a perspective of the learning process in the classroom, to obtain the variables that need to be improved, and to know the characteristics of students in general.

2) Planning;

This stage resulted the product design that was prepared based on literature study, needs analysis, and field study. The design of the product to be developed includes the purpose of using the product, who the product users are, and the description of the components of the product and its users. Preparation of initial product or early draft of science-based illustrated story book. The results of this stage are used as a consideration for the planning and development of picture story book based on scientific approach.

3) Develop preliminary form of product;

Develop an initial product form. Prepare all the components that exist in picture books, such as storylines, characterizations, backgrounds and formats in picture books. Customize the story with learning materials and objectives and evaluation tools to be used. The products are still draft and tentative. This initial product will be validated by validators (subject material expert and children literature expert). This initial validation product design aims to obtain criticism and suggestions and judgments from the validators. Criticism and suggestions are used as reference to improvements to the product design before it is tested.

4) Preliminary field testing;

The first trial have done at SD A (6 students and 1 teacher). During the experiments conducted observations and responses of students about picture story book based on scientific approach through

discovery learning. This step aims to determine whether the product developed effectively used in the learning process. Prior to the trial, teacher were invited to understand the learning procedures that will be conducted in the classroom.

5) Main product revision;

Revise 1 to the main product (in accordance with suggestions or reflections of preliminary field testing results). The revisions were made to correct the deficiencies of the validated products, and then revised the product I in the form of product design II to be used for the test of the product again after being validated by the experts.

6) Main field testing; and

The second trial have done at SD B (15 students and 1 teacher). The purpose of the main field trial is to determine whether the product is better or not. The second product design results as a reflection of the previous product to be used at this stage. Another goal of this stage is to gather information that can be used to improve learning.

7) Operational product revision.

Completion of operational products is to revise the product design II that has been used in the learning process. Completion of operational products is based on findings when conducting major field trials. The revised results are product design III which will be tested widely in three elementary schools.

Instruments of Data Collection

Instrument in this research divided into two parts. The instrument to measure the validity of the product which included: (1) validation sheet of material subject expert, (2) validation sheet of children literature expert.

Data Analysis Technique

Qualitative data in this research are criticism and suggestion by expert. These data are collected and summarized to improve the product being developed. While the quantitative data in the form of scores on each instrument item that has been filled by the expert.

Analysis of Expert Validation Results

In this research the data is analyzed to get picture story book based on scientific approach through discovery learning that valid and effective. When these requirements are met, the product developed is feasible for use. To know the quality of product development result both from aspect of subject matter and children literature, and also to know student response to product from data which initially in the form of score, converted into qualitative data (data interval) with scale five. This is in accordance with the reference table adapted from Sukarjo (2010:100-101).

3. Result

Data Analysis from Subject Matter Expert

In the data analysis of product validation results of this subject material expert there are 6 aspects developed. The results of the subject material experts as follows:

Table 1. The results of the subject material experts

Aspect	Total score	Criteria
Conformity with scientific approach	27,00	Very good
Conformity with discovery learning	14,00	Very good
Subject material suitability	19,00	Very good
Activities that support material	14,00	Very good
Conformity with student development	25,00	Very good
Organization of material presentation	24,00	Very good

Data Analysis from Literature Expert

In the data analysis of product validation results of this children literature expert there are

4 aspects developed. The results of the subject material experts as follows:

Table 2. The results of the subject material experts

Aspect	Total score	Criteria
Anatomy of books	25,00	Very good
Contents of book	27,00	Very good
Language suitability	16,00	Very good
Quality of illustration	19,00	Very good

The next stage is the first trial test. The first trial test were given to 9 students of grade III. Data obtained in the form of student response data to the use of product during the learning process. Analysis of student responses included

in the category is very good. Suggestions obtained from the limited test are the use of language in a conversation and the correction of some lost images. Data result of student response to product usage can be seen in the table below:

Table 3. The Result of Student Response to Product

Response aspect	Student	
	Total score	Category
Subject matter	11,07	Very good
Language	15,90	Very good
Content of book	18,00	Very good
Attitude insertion	8,0	Very good

Data obtained from trial test is student response data. From student response data about learning by using picture story book product is in very good category.

4. Discussion

The picture story book based on scientific approach through discovery learning product The product has been assessed by the experts and declared valid based on the result of the assessment. Based on validation result from subject material expert and children literature expert, all aspects of picture story book based on scientific approach through discovery learning covering all aspects, got an "Excellent" rating. In accordance with the product quality, the product developed is considered feasible if all aspects assessed achieve the minimum category of "Good". Thus, the picture story book based on scientific approach through discovery learning has been valid and is ready for further testing.

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THE HANDLING OF OVERDISPERSION ON POISSON REGRESSION MODEL AND ITS APPLICATION TO DATA OF MATERNAL DEATHS IN CENTRAL JAVA

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Abstract

Regression model is used to model the relationship between predictor variables and response variable. In case that the response variable are Poisson distributed, Poisson regression model can be used to model the relationship. An assumption that must be fulfilled on Poisson distribution is the mean value of data equals to the variance value (or so-called equidispersion). If the variance value is greater than the mean value, it is called overdispersion. Overdispersion occurs due to such factors as the presence greater variance of response variable caused by other variables unobserved heterogeneity, the influence of other variables which leads to dependence of the probability of an event on previous events, the presence of outliers, the existence of excess zeros on response variable. If the equidispersion is not met, the Poisson regression is no longer appropriate to model the data. Moreover, the resulted model will yield biased parameter estimation and underestimated standard error, leading to invalid conclusions. To handle overdispersion, the generalized Poisson regression model can be employed. The present study seeks to overcome overdispersion of the Poisson regression model using generalized Poisson regression model and to apply it to data of maternal deaths in Central Java. The study found out the generalized Poisson regression model, its parameter estimation using maximum likelihood estimation (MLE), as well as iterative solution using Newton-Raphson method. The iterative estimation obtained is $\hat{\alpha}_{(t+1)} = \alpha_{(t)} - H_{(t)}^{-1}G_{(t)}$ and $\hat{\beta}_{(t+1)} = \beta_{(t)} - H_{(t)}^{-1}G_{(t)}$, where t represents the number of iterations required and α is dispersion parameter. The analysis results in the generalized Poisson regression model, expressed as $\hat{Y}_i = \exp(\hat{\beta}_0 + \hat{\beta}_1 X_{1i} + \hat{\beta}_2 X_{2i} + \dots + \hat{\beta}_p X_{pi})$.

Keywords: Poisson regression model, overdispersion, generalized Poisson regression model, Newton-Raphson

1. Introduction

Regression model is used to model the relationship between predictor variables (or so-called independent variables, X) and response variable (dependent variable, Y) [1, 2]. It is divided into linear regression and nonlinear regression models. The linear regression models has linear parameters and is normally distributed. In case that data of response variable are not normally distributed and do not have linear parameter, the nonlinear regression models is employed [3]. To model data of nonlinear regression models, generalized linear model (GLM) is made use of. Three components of the GLM involve random component, systematic component, and link function [4]. One of nonlinear regression modeled with the GLM is Poisson Regression.

Reference [5] developed generalized linear model (GLM) to model the relationship between a response variable and predictor variables, where the response variable is not normally

distributed but the distribution belongs to exponential family. It implies that response variable can be assumed to have Poisson, binomial, exponential, negative binomial, and Gamma distributions. The relationship between predictor variables and response variable-Poisson distributed can be modeled using Poisson regression models. The model should meet the assumption that variance equal to the mean (equidispersion). According to references [6,7,8], the assumption of equidispersion can sometimes be not met. Variance are sometimes greater than the mean (overdispersion), or smaller than the mean (underdispersion). The underdispersion is rare in practice due to the presence of greater variance than the conditional mean of response variables [8,9].

Overdispersion is resulted from the presence greater variance of response variable caused by other variables, unobserved heterogeneity, the influence of other variables which leads to dependence of the probability of

an event on previous events, the presence of outliers, the existence of excess zeros on response variable [10]. One of the consequences of overdispersion is the standard deviation of parameter estimates downward biased and significance of predictor variables upward biased, so that leading to invalid conclusions [11]. Overdispersion can be detected using score test statistics. According to Reference [5], overdispersion occurring in Poisson regression models results in underestimated standard error and consequently invalid conclusions. If data with overdispersion are analyzed using the Poisson regression models, there will be some missing information due to unmodeled dispersion parameters in the formulated regression model. Dispersion parameters refer to parameters which appear as a result of the absence of equidispersion.

Some regression models can be used to overcome overdispersion; two of which are negative binomial regression model and generalized Poisson regression (GPR) model [11,12]. The present study focuses on the GPR model. GPR model is developed from Poisson regression by assuming the response variable is generalized Poisson distributed. The GPR enables to model data with overdispersion [13]. In addition, the GPR can include regression parameters, altogether with dispersion parameters. The present study seeks to review the GPR model to handle overdispersion in Poisson regression. The model was applied to model the number of maternal deaths in Central Java in 2014.

2. Method

This study reviews literature from books, journals, and articles on theories of Poisson

regression model, overdispersion, and GPR model. First, we conducted literature review on Poisson regression model, overdispersion, and the GPR model. While conducting literature review on Poisson regression model, we carried out literature review on Poisson probability density function, Poisson regression model, assumptions which should be met in Poisson regression, and violation of assumptions that occur in Poisson regression model (overdispersion). The literature review on overdispersion covered the ways to detect overdispersion, causes of overdispersion, and consequences of overdispersion.

Next, we conducted literature review on the GPR model, including the generalized Poisson probability density functions, as well as the GPR model and its parameter estimations. In order to estimate parameters $\beta_0, \beta_1, \beta_2, \dots, \beta_p$ and α , maximum likelihood estimation (MLE) was employed by formulating likelihood functions, as well as ln-likelihood functions, deriving towards β and α , and optimizing parameters β and α . Due to the difficulty in determining the solution, Newton-Raphson method was used by finding out initial values of parameters $\hat{\beta}$ and $\hat{\alpha}$, and iterating parameters β and α until converging parameters were obtained.

We also applied the results of the literature review to data of the number of maternal deaths in 2014 in 35 regencies/cities of Central Java. The data were obtained from Health Department (*Dinas Kesehatan*) of Central Java province. The variables comprise one response variable and ten predictor variables assumed to exert an influence on the number of maternal deaths, as shown in Table 1.

Table 1. Predictor variables assumed to exert an influence on response variable.

Variable	Description
response variable (Y)	the number of maternal deaths
predictor variable 1 (X_1)	the percentage of obtainment of antenatal care service 1
predictor variable 2 (X_2)	the percentage of obtainment of antenatal care service 4
predictor variable 3 (X_3)	the percentage of labor with the help of medical professionals
predictor variable 4 (X_4)	the percentage of obtainment of Fe1
predictor variable 5 (X_5)	the percentage of obtainment of Fe3
predictor variable 6 (X_6)	the percentage of midwifery complication handling
predictor variable 7 (X_7)	the percentage of hygienic and healthy households
predictor variable 8 (X_8)	the percentage of hospitals
predictor variable 9 (X_9)	the percentage of public health centers (<i>puskesmas</i>)
predictor variable 10 (X_{10})	the percentage of poor population

Afterwards, we conducted goodness of fit test for Poisson distribution on response variable, determine the Poisson regression model, and tested overdispersion on the model, determined the GPR model, estimated its parameters, and analyzed the GPR model.

3. Findings and Discussion

Poisson Regression Model

Poisson regression model belongs to nonlinear regression model resulted from Poisson distribution which includes the application of generalized linear models (GLM). It explains the relationship between response variable and predictor variables, where the response variable cover discrete/count data [3, 5, 7]. The probability density function of Poisson distribution is defined as

$$f(y_i, \mu) = \frac{\mu^{y_i} e^{-\mu}}{y_i!}, i = 1, 2, \dots, n \quad (1)$$

where μ represents the mean of response variable Y which is greater than 0, and n is the number of observations. Since Poisson distribution belongs

to exponential family, (1) can be written in the form

$$f(y_i, \mu) = \exp[y_i \ln(\mu) - \mu] \frac{1}{y_i!}.$$

To find out whether response variable is Poisson distributed, goodness of fit for distribution is tested using the Kolmogorov-Smirnov test. If D_n is greater than $d_{(n, \alpha)}$, where

n represents the number of observations, then the response variable is Poisson distributed. The formula of D_n is expressed as

$$D_n = \sup_x |F_n(x) - F_0(x)|$$

Poisson regression enables to model the relationship between p predictor variables (X_1, X_2, \dots, X_p) and one response variable (Y) assumed to be Poisson distributed [7]. Independent samples with n observations

($X_{1i}, X_{2i}, \dots, X_{pi}, Y_i$) were provided; $i = 1, 2, \dots, n$, where $X_{1i}, X_{2i}, \dots, X_{pi}$ are the i^{th} observations of variables X_1, X_2, \dots, X_p and Y_i is the i^{th} observations of variable Y . The Poisson regression is formulated as

$$Y_i = \exp(\hat{\beta}_0 + \hat{\beta}_1 X_{1i} + \hat{\beta}_2 X_{2i} + \dots + \hat{\beta}_p X_{pi}) + \varepsilon_i.$$

In the form of matrix, it is expressed as

$$Y = \exp(X\beta)$$

where Y is response variable-Poisson distributed in the form of $n \times 1$ sized vector, X represents predictor variable in the form of $n \times (p + 1)$ sized vector, β is regression parameter in the

form of $(p + 1) \times 1$ sized vector, and n is the number of observations [7].

If conditional mean of Y_i towards $x_{1i}, x_{2i}, \dots, x_{pi}$ is expressed as

$$\begin{aligned} E(Y_i | X_{1i} = x_{1i}, X_{2i} = x_{2i}, \dots, X_{pi} = x_{pi}) &= \mu(x_{1i}, x_{2i}, \dots, x_{pi}) \\ \mu(x_{1i}, x_{2i}, \dots, x_{pi}) &= \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_p X_{pi} \end{aligned} \quad (2)$$

where $i = 1, 2, \dots, n$ and n represents the number of observations, (2) can be expressed as

$$\ln(\mu(x_{1i}, x_{2i}, \dots, x_{pi})) = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_p X_{pi} \quad (3)$$

Equation (3) is equivalent to

$$\begin{aligned}\mu(x_{1i}, x_{2i}, \dots, x_{pi}) &= \exp(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_p X_{pi}) \\ &= \exp\left(\beta_0 + \sum_{j=1}^p \beta_j X_{ji}\right).\end{aligned}$$

Overdispersion

References [1,9] point out that in Poisson regression an assumption should be met, i.e. response variable should be Poisson distributed. Assumption of Poisson distribution is that the variance value and the mean value are equal (equidispersion), or are expressed $Var(Y_i) = E(Y_i)$. If the assumption is not met, overdispersion (the variance value are greater than the mean value) occurs, or is expressed $Var(Y_i) > E(Y_i)$. To test the overdispersion on Poisson regression, score test statistic is used. If the statistic results in a value of less than $Z_{\alpha/2}$, then overdispersion occurs. The formula of the score test statistic is expressed as

$$S = \frac{\sum_{i=1}^n [(Y_i - \mu)^2 - \mu]}{[2\mu^2]^{1/2}}.$$

Several factors contributing to the occurrence of overdispersion in an observation include the presence greater variance of response variable caused by other variables, unobserved

heterogeneity, the influence of other variables which leads to dependence of the probability of an event on previous events, the presence of outliers, the existence of excess zeros on response variables [10]. One of the consequences of overdispersion is the standard deviation of parameter estimates downward biased and significance of predictor variables upward biased, so that leading to invalid conclusions [11]. If overdispersion in Poisson regression occurs, the resulted model will be less accurate, leading to underestimated (lower than the true value) standard error of parameter estimation and therefore invalid conclusions. In addition, the resulted deviance value will exceed and this triggers complex model selection and wrong interpretation on the model [8,9].

The GPR Model

The function of the generalized Poisson distribution is expressed as

$$f(y_i; \mu; \alpha) = \left(\frac{\mu}{1 + \alpha\mu}\right)^{y_i} \frac{(1 + \alpha y_i)^{y_i-1}}{y_i!} \exp\left(-\frac{\mu(1 + \alpha y_i)}{1 + \alpha\mu}\right), i = 1, 2, \dots, n$$

where α represents dispersion parameter and n is the number of observations. The mean value and the variance value of the generalized Poisson distribution are $E(Y_i) = \mu$ and $Var(Y_i) = (1 +$

$\alpha)^2$, respectively. The formulated regression model based on the GPR employs the GLM with link function

$$Y = \log \mu = \eta = x'\beta$$

The parameter estimation of the GPR is subsequently done using MLE [6]. The likelihood function for the GPR model is:

$$L(\mu, y, \alpha) = \prod_{i=1}^n \left[\left(\frac{\mu}{1 + \alpha\mu}\right)^{y_i} \frac{(1 + \alpha y_i)^{y_i-1}}{y_i!} \exp\left(-\frac{\mu(1 + \alpha y_i)}{1 + \alpha\mu}\right) \right]$$

Afterwards, the likelihood function is simplified by running a natural logarithm

transformation and the following function is obtained

$$\ln L(\mu, y, \alpha) = \sum_{i=1}^n y_i [\ln \mu - \ln(1 + \alpha \mu)] + \sum_{i=1}^n (y_i - 1) \ln(1 + \alpha y_i) - \sum_{i=1}^n \ln(y_i!) + \sum_{i=1}^n \left[\frac{-\mu(1 + \alpha y_i)}{1 + \alpha \mu} \right]$$

where $\mu = \exp(\beta_0 + \sum_{k=1}^p \beta_k X_k)$. In order to obtain maximum value of parameter estimation, ln-likelihood function should be maximized. It can be met if the function derived to each parameter (β and α) is zero valued. The derivation results in difficult-to-solve system of nonlinear equation, and therefore approximate solution using Newton-Raphson method is employed [15]. Below are procedures to estimate parameters $\beta_0, \beta_1, \beta_2, \dots, \beta_p$ and α using Newton-Raphson method:

- 1) Determining initial value of parameters β and α . The initial value that used to estimate the

parameter β on GPR model is the result of Poisson regression model estimation and to estimate the parameter α on GPR model is 1.

- 2) Conducting iterative process with the following procedures

$$\alpha_{(t+1)} = \alpha_{(t)} - H_{(t)}^{-1} G_{(t)}$$

$$\beta_{(t+1)} = \beta_{(t)} - H_{(t)}^{-1} G_{(t)}$$

where G represents gradient vector, H is Hessian matrix, and t is the number of iterations. β, α, G , and H can be written as

$$\begin{bmatrix} \beta_0 \\ \beta_1 \\ \beta_2 \\ \vdots \\ \beta_p \end{bmatrix}, \alpha = [\alpha], G = \begin{bmatrix} \frac{\partial}{\partial \beta_0} \ln L(\mu, y, \alpha) \\ \frac{\partial}{\partial \beta_1} \ln L(\mu, y, \alpha) \\ \frac{\partial}{\partial \beta_2} \ln L(\mu, y, \alpha) \\ \vdots \\ \frac{\partial}{\partial \beta_p} \ln L(\mu, y, \alpha) \\ \frac{\partial}{\partial \alpha} \ln L(\mu, y, \alpha) \end{bmatrix}, H^{-1} = \frac{1}{|H|} \text{adj}(H), \text{ and}$$

$$H = \begin{bmatrix} \frac{\partial^2}{\partial \beta_0^2} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_0 \partial \beta_1} \ln L(\mu, y, \alpha) & \dots & \frac{\partial^2}{\partial \beta_0 \partial \beta_p} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_0 \partial \alpha} \ln L(\mu, y, \alpha) \\ \frac{\partial^2}{\partial \beta_1 \partial \beta_0} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_1^2} \ln L(\mu, y, \alpha) & \dots & \frac{\partial^2}{\partial \beta_1 \partial \beta_p} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_1 \partial \alpha} \ln L(\mu, y, \alpha) \\ \frac{\partial^2}{\partial \beta_2 \partial \beta_0} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_2 \partial \beta_1} \ln L(\mu, y, \alpha) & \dots & \frac{\partial^2}{\partial \beta_2 \partial \beta_p} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_2 \partial \alpha} \ln L(\mu, y, \alpha) \\ \vdots & \vdots & \ddots & \vdots & \vdots \\ \frac{\partial^2}{\partial \beta_p \partial \beta_0} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_p \partial \beta_1} \ln L(\mu, y, \alpha) & \dots & \frac{\partial^2}{\partial \beta_p^2} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \beta_p \partial \alpha} \ln L(\mu, y, \alpha) \\ \frac{\partial^2}{\partial \alpha \partial \beta_0} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \alpha \partial \beta_1} \ln L(\mu, y, \alpha) & \dots & \frac{\partial^2}{\partial \alpha \partial \beta_p} \ln L(\mu, y, \alpha) & \frac{\partial^2}{\partial \alpha^2} \ln L(\mu, y, \alpha) \end{bmatrix}$$

- 3) Conducting iteration to obtain estimation of parameters β and α by taking the convergence into account. The iteration is regarded convergent if the value of $\alpha_{(t+1)}$ converges to $-\alpha_{(t)}$ and the value of $\beta_{(t+1)}$

converges to $-\beta_{(t)}$, or $\alpha_{(t+1)} - \alpha_{(t)} = \varepsilon$ and $\beta_{(t+1)} - \beta_{(t)} = \varepsilon$, where ε is a really small number.

Therefore, the estimation of generalized Poisson regression model using MLE is obtained

$$\hat{Y} = \exp(\hat{\beta}_0 + \hat{\beta}_1 X_{1i} + \hat{\beta}_2 X_{2i} + \dots + \hat{\beta}_p X_{pi}), i = 1, 2, \dots, n.$$

Application

The study models the relationship between maternal deaths (Y) and the percentage of obtainment of antenatal care service 1 (X_1), the percentage of obtainment of antenatal care service 4 (X_2), the percentage of labor with the help of medical professionals (X_3), the percentage of obtainment of Fe1 (X_4), the percentage of obtainment of Fe3 (X_5), the percentage of midwifery complication handling (X_6), the percentage of hygienic and healthy

households (X_7), the percentage of hospitals (X_8), the percentage of public health centers (*puskesmas*) (X_9), and the percentage of poor population (X_{10}). Data include 35 regencies/cities in Central Java province, obtained from Central Bureau of Statistics (*Badan Pusat Statistik*) and Health Department (*Dinas Kesehatan*) of Central Java province. Table 2 signifies the characteristics of each variable in descriptive statistics

Table 2. The Descriptive Statistics for Data of Maternal Deaths and the Influencing Variables

Variable	Mean	Variance	Min	Max
Y	3.0571	9.408	0.0000	14.0000
X_1	99.4226	4.441	93.0800	105.4300
X_2	93.0923	11.382	86.0000	98.4200
X_3	99.1914	2.313	94.3000	101.1000
X_4	97.0114	29.096	72.3000	106.2000
X_5	92.2886	19.873	78.1000	98.9000
X_6	103.9200	547.182	60.3000	168.0000
X_7	76.1934	154.407	44.5500	96.4600
X_8	94.2771	219.054	33.3000	100.0000
X_9	93.3400	128.885	59.3000	100.0000
X_{10}	13.0406	18.493	5.0400	21.4200

Based on Table 2, it is clear that the lowest number of maternal deaths is 0 occurring in such regencies as Banjarnegara, Kebumen, Wonosobo, Boyolali, Karanganyar, and Grobogan, as well as such cities as Magelang, Surakarta, and Salatiga. Meanwhile, the highest number of maternal deaths is 14 occurring in Brebes regency. The mean of maternal deaths is 3 and the variance is 9.

The lowest percentage of obtainment of antenatal care service 1 (X_1) is 93.08%, while the highest is 105.43%. The lowest percentage of obtainment of antenatal care service 4 (X_2) is 86%, while the highest is 98.42%. The lowest percentage of labor with the help of medical professionals (X_3) is 94.30%, while the highest is 101.10%. The lowest percentage of obtainment of Fe1 (X_4) is 72.30%, while the highest is 106.20%. The lowest percentage of obtainment of Fe3 (X_5) is 78.10%, while the highest is 98.90%. The lowest percentage of midwifery complication handling (X_6) is 60.30%, while the

highest is 68%. The lowest percentage of hygienic and healthy households (X_7) is 44.55%, while the highest is 96.46%. The lowest percentage of hospitals (X_8) is 33.30%, while the highest is 100%. The lowest percentage of public health centers (*puskesmas*) (X_9) is 59.30%, while the highest is 100%. The lowest percentage of poor population (X_{10}) is 5.04%, while the highest is 21.42%.

Prior to the determination of Poisson regression model, Poisson distribution testing on response variable using Kolmogorov-Smirnov test is performed to find out whether or not the response variable is Poisson distributed. The procedures include

- 1) Hypothesis: H_0 : Poisson distributed response variable; H_1 : Non-Poisson distributed response variable
- 2) Significance level: $\alpha = 0,05$.
- 3) Critical Region: $CR = \{D_n | D_n > D_{35;0;0,05} = 0,2299$
- 4) Test Statistics:

x	Frequency x	$p(x)$	$F_n(x)$	$f(x)$	$F_0(x)$	$ F_n(x) - F_0(x) $
0	9	0.257143	0.257143	0.047023	0.047024	0.210119
1	4	0.114285	0.371429	0.143757	0.190781	0.180648
2	4	0.114285	0.485714	0.219739	0.410520	0.075194
3	4	0.114285	0.600000	0.223921	0.634441	0.034441
4	5	0.142857	0.742857	0.171138	0.805579	0.062722
5	4	0.114285	0.857143	0.104637	0.910216	0.053073
6	1	0.028571	0.885714	0.053314	0.963530	0.078161
7	2	0.057142	0.942857	0.023283	0.986814	0.043957
9	1	0.028571	0.971429	0.003022	0.989837	0.018408
14	1	0.028571	1.00000	0.000003	0.989840	0.010160

$$D_n = \sup_x |F_n(x) - F_0(x)| = 0,210119$$

- 5) Conclusion: Since $D_n \notin CR$, H_0 is not rejected. This implies that the response variable is Poisson distributed.

Afterwards, Poisson regression model is determined. The model is obtained

$$\hat{Y}_i = \exp \left(\begin{array}{l} -29,093 + 0,335X_1 + 0,022X_2 + 0,005X_3 - 0,094X_4 - 0,007X_5 + \\ 0,01X_6 + 0,003X_7 + 0,022X_8 + 0,005X_9 + 0,013X_{10} \end{array} \right)$$

Next, overdispersion testing is conducted. The presence of overdispersion on data of maternal deaths in Central Java in the year of 2014 is demonstrated by Table 2. The variance value of Y is greater than the mean value of Y .

Overdispersion can also be seen from the value of the score test statistics. The result of the score test statistics is:

$$S = \frac{\sum_{i=1}^n [(Y_i - \mu)^2 - \mu]}{[2\mu^2]^{1/2}} = 49,24078$$

Since the value of $S = 49.24078$ is greater than $Z_{\alpha/2} = -1.96$, it can be concluded that overdispersion occurs on data of maternal deaths

in Central Java in the year of 2014. Therefore, GPR model can be used to overcome the overdispersion. The model is obtained

$$\hat{Y}_i = \exp \left(\begin{array}{l} -25,549 + 0,3348X_1 + 0,0199X_2 - 0,0171X_3 - 0,0867X_4 - 0,0155X_5 + \\ 0,0107X_6 - 0,00226X_7 + 0,0178X_8 + 0,00000599X_9 - 0,00898X_{10} \end{array} \right).$$

Parameter estimation is conducted and below are the procedures to estimate parameters $\beta_0, \beta_1, \beta_2, \dots, \beta_p$ and α

- 1) Determining the initial value of parameters β and α .

The initial value of the parameters:

$$\begin{bmatrix} \beta_0 \\ \beta_1 \\ \beta_2 \\ \beta_3 \\ \beta_4 \\ \beta_5 \\ \beta_6 \\ \beta_7 \\ \beta_8 \\ \beta_9 \\ \beta_{10} \end{bmatrix} = \begin{bmatrix} -29,093 \\ 0,335 \\ 0,022 \\ 0,005 \\ -0,094 \\ -0,007 \\ 0,01 \\ 0,003 \\ 0,022 \\ 0,005 \\ 0,013 \end{bmatrix} \text{ and } \alpha = 1$$

- 2) Conducting iteration of parameters β and α to obtain its convergence. Parameter β and α are convergent after 8 iterations. This results in $\hat{\beta}_0 = -25,549$; $\hat{\beta}_1 = 0,3348$; $\hat{\beta}_2 = 0,0199$; $\hat{\beta}_3 = -0,0171$; $\hat{\beta}_4 = -0,0867$; $\hat{\beta}_5 = -0,0155$; $\hat{\beta}_6 = 0,0107$; $\hat{\beta}_7 = -0,00226$; $\hat{\beta}_8 = 0,0178$; $\hat{\beta}_9 = 0,00000599$; $\hat{\beta}_{10} = -0,00898$; and $\hat{\alpha} = 0,6028$.

4. Conclusion

Based on these results can be drawn conclusions

- a. The generalized Poisson regression model to handle overdispersion on Poisson regression model is

$$\hat{Y}_i = \exp(\hat{\beta}_0 + \hat{\beta}_1 X_{1i} + \hat{\beta}_2 X_{2i} + \dots + \hat{\beta}_p X_{pi})$$

The probability density function is expressed as

$$f(y_i; \mu; \alpha) = \left(\frac{\mu}{1 + \alpha\mu} \right)^{y_i} \frac{(1 + \alpha y_i)^{y_i - 1}}{y_i!} \exp \left(- \frac{\mu(1 + \alpha y_i)}{1 + \alpha\mu} \right), i = 1, 2, \dots, n$$

where n represents the number of observations.

- b. Based on the application, Poisson regression model is obtained

$$\hat{Y}_i = \exp(-25,549 + 0,3348X_1 + 0,0199X_2 - 0,0171X_3 - 0,0867X_4 - 0,0155X_5 + 0,0107X_6 - 0,00226X_7 + 0,0178X_8 + 0,00000599X_9 - 0,00898X_{10}).$$

An increase in maternal deaths is influenced by the increase in the percentage the percentage of obtainment of antenatal care service 1, the percentage of obtainment of antenatal care service 4, the percentage of midwifery complication handling, the percentage of hospitals, and the percentage of public health centers (*puskesmas*). Meanwhile, a decline in maternal deaths is affected by the percentage of labor with the help of medical professionals, the percentage of obtainment of Fe1, the percentage of obtainment of Fe3, and the percentage of hygienic and healthy households.

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IMPROVING THE AFFECTIVE ATTITUDE OF STUDENTS IN ART AND MUSIC LEARNING USING USED GOODS

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Abstract

This paper is written based on the results of experimental use of file items into a means of expression in art and music at school MTSN Kasomalang Subang. This paper is written to eliminate the students' perception that in the art and music can not be done simultaneously, In addition to cognitive and psychomotor activities in work of art, This research was carried out to further improve the affective attitude starts from the sense of mutual respect and cooperation among students. Therefore, It is hoped that using learning strategies to utilize secondhand and art in art can foster a sense of togetherness, appreciate others and not work individually but able to cooperate with others. This paper was written with either a qualitative design with The application of action research methods in the implementation, starting from the Choose a used goods that will be used as a media work and determine the theme art is percussion music, Used goods and then decorated with a touch of painting done with students in school. Cultural art that includes skills taught to students is an activity where students are taught to be able to develop and take advantage of all that is around the environment as an ingredients work, These activities try to develop and creativity that unused goods around the environment still has value to the beneficial. The results of this research are students are able to think creatively and Work together in utilizing used goods into musical instruments, Students are able to process used goods into beautiful goods by giving a touch of painting on used goods. During the process of the art work in progress students are expected to show the attitude of valuing the work of others, to listen to the opinions of a group of friends as well as the cooperate in completing the work of art.

Keywords: art educations, afektif, secondhands.

1. Introduction

Art and culture are the subjects given at schools ranging from elementary school level of education, middle school and high school, the subjects of art and culture is given to students is useful to give the knowledge of aesthetic value and improve creativity of students. The subjects of art and culture is divided into knowledge of dance, music, and fine arts.

The art is taught in schools on subjects of art and culture and skills (*seni budaya & keterampilan*), students are not only skilled work but know their own culture and can give you the appreciation of a work of, Purnomo (2016) stated "in learning the art appreciative attitude developed culture, i.e. attitude pointing on a whim and the ability to appreciate and love the art and culture of the nation".

Teaching and learning culture requires media to be able to produce a good evaluation, media are tools or materials that can be used for the benefit of learning in an attempt to improve

the results of the study (*tim pengembangan MKDP, kurikulum dan pembelajaran 2011:176*). Therefore, The media shown should also contain about one entity, Where a media can show all art and cultural material activities (music, dance and fine arts) and skills. The presence of the media when the learning process is expected to enhance the spirit of learning and memberikan a good evaluation of the learning task. Art and culture and skills taught to students to be able to develop and make use of the environment as an ingredients work, for example the utilization of used goods.

Used goods used as materials for expression and creativity will be decorated with color and painted, then used goods will be revamped its function into an instrument for percussion. Through learning this art students are taught how to cultivate and designing a product. The activities of *pengolaan* this will be an integrated art in which the skills of fine art and the art of music is done for one purpose. As said by Giebelhousen (2016) in the MENC Task Force

for national standards in arts and music education National Conference, 1994; The National Association for music education, 2014 “starting with the 1994 national standards in music and Art with the standard National 2014, I really hope that the art of music in education can create the relationship between the music with other art”. Furthermore, how is the art of learning can lead to affective attitude to learners?.

Art has a lot of good sense from the experts as well as the notion of a dictionary that has recognized the truth, “herbert Read in the book is *The Meaning of Art* (1959). Declaring that art is the human endeavor to create fun shapes.” (Dharsono Sony, 2004, hlm 2). like is *the American Heritage Dictionary* (dalam Sudjoko. 2000. pp. 57) art is, as said AH: 1. Human efforts to draw, complement, change, or oppose the work of nature. 2. The making or conscious arrangement of sounds, colors, shapes, movements, or other elements, In a way that touches the beautiful taste, especially in the making of beautiful things through a line or style liner. 3. Fields or classes of art, such as music, ballet dance, or literature.

The number of understanding of art basically has the same purpose that is art is an attempt to convey a sense of someone in and the feeling is inside in good shape, the sound produced through the instruments as well as voice, motion generated by sports bodies, the form is generated from a two-dimensional or three-dimensional. In the learning of art and culture in school students are given an understanding of all forms of art are poured into the art of dance, art, music art.

Seni rupa is the work or an expression of feeling the results encouraged creativity and imagination of someone who has the skills and the race of life. (Sulasmi Darma. 1989, pp. 5). While music art is Wahyu Purnomo & Fasih Subagiyo (2010) in his skillful musical for junior high school, explain: Music terms derived from the Greek, mousikos. The word is derived from the name of one of the gods of Greece named Mousikos. Mousikos symbolized as God of beauty and master the field of Arts and science. Music can be interpreted as the expression of feelings that is poured in the form of sounds. The resulting expression through the voice of the man called the vocal, while expression generated via a tool called instrumental music. (pp. 3).

Although, the output of the different art. However, basically both can be connected into one, in accordance with the creativity of learners and educators in expanding it. How used is with the utilization of used goods are pouring in as the means of creativity fine arts and music. Second-

hand used is selected according to the needs of its function will be what once processed back, on the creativity of this time is the thrift will serve as percussion instruments, Used goods to be used among others: buckets, barrels, cans, drumsticks, glass, and to further maximize the function of used goods that have been selected at the time of playing it will dikolaborasikan with a keyboard instrument. The goal so that there is conformity between instruments with second-hand electronic music.

When finished with the selection of materials and creativity, the next step that will be worked on educators and learners are cultivate thrift is becoming more interesting to have aesthetic value, The thing done is to give a touch of art in the form of graphic technique *Stencil Srint*. *Stencil Srint* is types of mold that are using cliches in a State with wholes are places of passage of pigment due to pressure on the ink on the field in the bottom of the cliché. (Budiwirman. 2012. pp. 165-166). After changing the used goods into goods more valuable aesthetic further stage is experienced with the materials into a musical instrument.

The selected music is percussion ensemble. “the percussion ensemble is a music game using instruments at” (Agus salim, 2010). All activities are done in combining art with the art of music, This activity is an attempt in developing a school culture in art education at the same time an effort in the development of students ' creativity because basically “art education is the approach that most vital of all to foster creative talent and culture ” (Shuqin, 2012).

2. Method

The research method used in this research uses qualitative design with the application of action research methods in its implementation, the research was carried out in Kasomalang MTSN Subang, Bandung. With the sample as many as 10 students. This research was done in 1 month, with Groove training the students learn the basic tone in the music of percussion then Choose a used goods that will be used as a medium, Used goods will be used as a musical instrument for percussion music that has been previously decorated with a touch of painting done with students in school.

Results achieved in this study is Students are able to think creatively and Work together in utilizing used goods into musical instruments, Students are able to process used goods into beautiful goods by giving a touch of painting on the goods. During the process of the ongoing work of art students can indicate an attitude to

appreciate the work of others, to listen to the opinions of a group of friends and cooperate in completing the work of art, This became the main subject in the process of work carried out. Other than that students are able to play a music instrument made from materials found on the theme of percussion music.

3. Results And Discussion Of The Research

The process of performing art and artistic creativity in the learning of art and culture is done by direct practice method implemented for 1 month at MTSN Kasomalang Subang, worked together with educators and learners in accordance with the prevailing theories and

concepts. All activities activities recorded using a camera and edited into audio visual works of art "match by name, This medium is a combination of audio and visual, or commonly called point of view heard" (tim pengembangan MKDP, kurikulum dan pembelajaran 2011, pp. 163) Which can be used as a medium for learning art and culture to increase the creativity of learners because with the media, especially audio visual media will be able to grow interest in students' creativity.

Before the work product students are taught the basic tone in play music, that became the basis of the beam in the musical. The beams, among others:

No.	Bentuk	Nama	Harga	Nilai
1.		Utuh	$2 \times 1/2 = 1$	4 ketukan
2.	atau	Setengah	$2 \times 1/4 = 1/2$	2 ketukan
3.	atau	Seperempat	$2 \times 1/8 = 1/4$	1 ketukan
4.	atau	Seperdelapan	$2 \times 1/16 = 1/8$	1/2 ketukan
5.	atau	Seperenambelas	$2 \times 1/32 = 1/16$	1/4 ketukan

Gambar 1, <https://www.scribd.com/doc/88454418/Fullbook-Terampil-Musik-Smp-Mts>

Patterns in music percussion: **the pattern one** called by the single stroke technique. Single stroke technique is blow to alternate between right and left hand tanagn 4/4 tone bars with a constantly recurring with each one beats to knock into four. **The pattern of two** so-called double stroke technique, This technique is the instant punch between the left hand and right hand, each of his knock has doubled with a tone of 4/4 beats, This means that the the right hand on the first it beats his shot constant temperatures doubled to knock in two left hand value his shot it twice turns to knock into three and four. **The pattern of three** called with engineering paradiddle. This technique is a combination of a pattern 1 pattern 2, the pattern among other ka-ki-ka-ka-ki-ki, Ka and ki meaning right mean left. **The pattern of four** called by arrangement, arrangement by combining the pattern one, two and three patterns of patterns as well as blending measure drum blues. The pattern is called the five techniques samba. This technique is a blow to do to create a harmonious tone. **Six patterns** is called pattern

punch boosas, accented blows which fell on the step count after starting with two weak punches

In the implementation the students will be given a referral about what is not the basis of percussion and beams in the music itself. From the above table it can be seen in column form contained symbols are referred to as "not". The notes will be placed on the line with a line called pranada. The line consists of the five pranada line parallel to the size of the same length. As described by Subagyo (2010) explain "the line consists of five pranada line paralleled the same length. The distance of the numbered from bottom to top, i.e. 1, 2, 3, 4, 5. The hose or the distance between the two arms of a notation called a space. High places and each tone is set on line fixed and pranada unchanged-change "

Why it is directed in advance, because, It is basically cultural arts learning on learner level of junior high school and above is students are expected to understand and be able to explain what they are doing either in criticism as well as appreciation, they are not only playing music can

be prosecuted but understand by what they play as well as they used to do.

During the process of working with students it looks awkward in cooperation and students look very hard to communicate with each other, and some even think of doing their own work. To eliminate a State researchers chose the material to be used in decorating the thrift is by using the techniques of graphic *stencil print*. Budiwirman in him book *Seni, Seni Grafis, dan Aplikasinya dalam Pendidikan* (2012. pp. 165-166) explain: Stencil Print technique print filter is a type of mold using a Cliche that has a perforated into the limits of Pigment or color.

The stages are done in the thrift to decorate using graphic techniques *stenil print* is Choose a motif that will be depicted on objects, namely, themed i.e., flora and fauna of butterflies and flowers, where such motifs are arranged on a plastic sheet which will be deducted on a certain part. As in the following process: Tools and materials that are prepared, among others; a) cover of plastic, paper, cardboard, b) cutter, c) paint, d) foam, brush.

Machining process: a) make a picture or design that will be used as the object of the image on the cover of the Catapult.



b) the object to use to trim your cutter, becoming hollow (the hollow is the part that will be given colors)



c) put the Catapult on paper cartons that will be in print. Then sprinkle paint using brush on the hole until evenly distributed.



d) lift up the perforated paper and leave color on cardboard to dry out while giving the effect of finishing at work.





e) Results after applied on used items

Based on research conducted on top indicates that the importance of fostering a sense of sympathy towards children or whatever he learned as well as the importance of socialization and mutual valuing between friends, especially in learning the art with the selection of appropriate materials and methods that can provide benefits to students.

The results of this research note that by learning the fine arts can provide skills to students about the utilization of used goods unused products that have the functionality of other tools in the form of sharing music, by learning the art of being able to give musical skills in students with learning and the arts can lead to affective attitude of students in cooperating to resolve the issue and appreciate the opinion as well as the work of others.

4. Conclusion

Based on the results of the creation of the creativity done and outlined above the conclusion that can be drawn is like any kind of art being taught basically have an affinity and can be connected to each other, as well as in the process of implementation can be used as a medium when done recording and edited it as interesting as possible. Then, learning takes place when students are expected to know and understand what is being taught and can think creatively by creating new things from art work especially activities harnessing the goods unused around the neighborhood. The main thing is to be expected in the study above are students able to appreciate the opinions provided the other person and capable of issuing opinions and are able to work together in solving group and does not stand alone.

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PROBLEM-BASED LEARNING IMPLEMENTATION IN VOCATIONAL HIGH SCHOOL

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Abstract

This study was aimed at describing effectiveness of problem-based learning implementation at vocational high school in 2013 curriculum context. This descriptive study done at Vocational High School in the Special District of Yogyakarta: SMKN 2 Depok, SMKN 1 Selenga, SMKN 2 Yogyakarta, SMKN 4 Yogyakarta, SMKN 6 Yogyakarta, SMKN 2 Sedayu, SMKN 2 Pengasih, SMKN 2 Wonosari, and SMKN 3 Wonosari. The Subject in this study were teachers at Vocational High School, especially in automotive, machinery, and culinary programs that implemented problem based learning. Data were collected through teacher's observation. The data were analyzed using descriptive methods. The result of descriptive analysis showed that problem based learning was effective to improving enthusiasm, attention and activity of students.

Keywords: problem based learning, vocational high school, 2013 curriculum

1. Introduction

Background of Research Problem

Vocational education are education for vocation or education for occupation. Billet (2011) says that vocational education are education for occupation. Preparation for work was the main goal of vocational education (Pavlova, 2009). It was perceived as providing specific training that was reproductive and based on teachers' instruction, with the intention to develop understanding of a particular industry, comprising the specific skills or tricks of the trade. Students' motivation was seen to be engendered by the economics benefit to them, in the future.

Vocational education especially vocational high school have strategic role in preparing human resources, specifically a mid-level workforces. Vocational education especially vocational high school are education that prepare graduates to entering world of work (Act of The Republic of Indonesia Number 20 of 2003). So, relevancy between education and world of work is key factor to determine effectiveness of vocational education.

Kurikulum 2013 in vocational education is innovative policy to improving the quality of graduates suitable to the goal of education (entering world of work). This policy is expected to produce Indonesian humans who are productive, creative, innovative, and affective through integrated improvements of attitude (know why), skills (know how), and knowledge. The change of curriculum from 2006

Curriculum to 2013 curriculum needs a change of learning paradigm from teaching centered learning to student centered learning, from teaching community to learning community. Teachers have to be creative and innovative in designing a learning so the students are motivated and pleased when a learning occurs. Therefore, there must be efforts from teachers on how to develop learning process to be interesting, pleasing, and motivating the students to do self-learning (Sofyan, 2014)

One of effective learning methods to improving quality of learning with student centered learning paradigm is Problem-Based Learning (PBL). Problem based learning is a constructivistic learning method orienting at student able to grow a spirit that is creative, collaborative, metacognitive thinking, developing high-level thinking, improving the understanding of meanings, improving independence, facilitating problem-solving, and developing teamwork. The question is, how problem based learning improving the quality of learning. This study is expected to describe effectiveness of problem based learning to improve quality of learning.

MacDonald and Isaacs (2001) offer this distinguishing characteristic of problem-based learning: "The characteristic that distinguishes PBL from other learning methods centring on what students do, rather than what teaching staff do (student-centred methods) is that the problem comes before the knowledge (in the broadest sense) needed to solve or resolve it." Maastricht (Graff and Kolmos, 2003) show that problem

based learning is an educational approach whereby the problem is the starting point of the learning process. The type of problem is dependent on the specific organisation. Usually, the problems are based on real life problems which have been selected and edited to meet educational objectives and criteria.

Barrows and Tamblyn (Barret, www.aishe.org) describe an operational definition of problem-based learning is as follows:

1. First students are presented with a problem
2. Students discuss the problem in a small group PBL tutorial. They clarify the facts of the case. They define what the problem is. They brainstorm ideas based on the prior knowledge. They identify what they need to learn to work on the problem, what they do not know (learning issues). They reason through the problem. They specify an action plan for working on the problem.
3. Students engage in independent study on their learning issues outside the tutorial. The information sources they draw on include: library, databases, the web and resource people
4. They come back to the PBL tutorial (s) sharing information, peer teaching and working together on the problem
5. They present and discuss their solution to the problem
6. They review what they have learnt from working on the problem. All who participated in the process engage in self, peer and tutor review of the PBL process and each person's contribution to that process.

2. Research Method

This research is a descriptive research conducted to teachers in five vocational high schools (SMK) of machinery, light vehicle engineering, and culinary fields. Subject is teachers that implementing problem based learning in machinery, light vehicle engineering, and culinary fields. Data gathering was done by teachers' observation. Data was analyzed descriptively.

3. Research Results and Discussion

Problem-based learning (PBL) is a learning strategy that used real-world problems as a context for learners to learn about critical thinking and problem-solving skills. Problem-based learning is used to stimulate high-level thinking in problem-oriented situations. To achieve this, teachers help learners to identify relevant information and learning resources to conduct investigations in resolving the issue. In developing these skills, cooperation among learners in groups is needed to identify relevant information and learning resources to solve the problems. PBL is a student-centered learning, while the teacher facilitating learners to actively solve problems and build knowledge.

An overview of the implementation of Problem Based Learning conducted in Vocational High School in Yogyakarta with three different departments: machining, automotive engineering, and culinary can be shown in Table 1.

Tabel 1. Observation of Student Behavior by Teacher

No.	Aspect	Machining		Automotive		Culinary		Mean	
1	Enthusiastic in learning	4,00	High	4,00	High	4,33	Very High	4,13	Very High
	Positively Response	3,57	High	3,33	High	4,00	High	3,67	High
	Define the task completion target	3,86	High	4,67	Very High	4,00	High	4,07	Very High
2	Attention to teacher explanations	3,86	High	3,33	High	4,50	Very High	4,00	High
	Attention to the work instructions	4,14	Very High	4,00	High	4,00	High	4,06	Very High
	Attention to problem solving process	3,71	High	3,67	High	4,17	Very High	3,88	High
	Attention to the opinions of other students	3,29	High	3,33	High	4,33	Very High	3,69	High
3	Asking	3,14	High	4,00	Very High	4,00	Very High	3,63	High
	Bring ideas	3,29	High	3,67	High	3,83	High	3,56	High
	Demonstration / presentation	3,43	High	4,33	Very High	4,17	Very High	3,88	High
	Doing the exercises	4,00	Very High	4,00	Very High	4,17	Very High	4,06	Very High
4	Student busy	3,14	High	2,33	Low	2,50	Low	2,75	Low
	Annoying their friends	2,00	Very Low	2,67	Low	1,83	Very Low	2,06	Low
	Noisy students	2,14	Low	2,67	Low	1,67	Very Low	2,06	Low

Observations were made on several aspects in the application of Problem Based Learning in Vocational High School. Table 1 shows that enthusiasm students in learning with Problem Based Learning is very high. This high enthusiasm is supported by the high positive responses of students to teacher encouragement and task completion targets. During the learning process implemented, students are highly valued in attention to teacher explanations, work guidance and problem-solving process as well as observing the opinions of other students. In addition, the activities of students during the learning such as asking, suggesting ideas, doing demonstrations/presentations and doing exercises in general are high.

Implementation of Problem Based Learning which is considered new, potentially causing some conditions that make the class less conducive. The existence of student freedom in the learning process such as discussion and presentation can cause a crowded class, noisy and disturbing other students in learning. The observations made seemingly crowded students and do not pay attention to the lessons for Automotive Engineering and Catering is low, while for Mechanical Engineering is high. Less conducive students also seen students who interfere with his friends. In general, students who interfere with his friends are low. Likewise, the classroom noise is also low. The results of the observations above show that Problem Based Learning does not cause less conducive class.

The results of self-evaluation of each teacher shows that the implementation of Problem Based Learning considered necessary to be followed up because Problem Based Learning can improve the quality of learning. Problem Based Learning enables students to more easily to understand practice techniques, provide more students opportunities to learn, students are accustomed to developing critical skills and problem solving. Implementation of Problem Based Learning can also improve students' self-reliance through initiative, creative thinking demands, creativity and competition. In addition, social skills can also be enhanced through cooperation and discussion.

Implementation of Problem Based Learning can directly add the source of student reference. This is because students are given freedom in searching for learning resources such as books, the internet, and journals.

Problem Based Learning has a well-planned and clear syntax. Teachers as facilitators should follow the syntax and prepare the learning support infrastructure. The syntax and rules of Problem Based Learning according to the teacher

are identical and appropriate to the learning of vocational education especially practice. Problem Based Learning will be better applied as an action research. In addition to supporting infrastructure, another important factor is the teachers to make grade on the problems given to students. In general, the given case has not been divided into categories easy, moderate or difficult.

4. Conclusion

The study result shows that problem based learning is effective to improving quality of learning. Implementation of problem based learning can improve enthusiasm, participation and activity of students.

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THE IMPLEMENTATION OF SCIENTIFIC-BASED LEARNING IN MIDDLE SCHOOL IN KARANGANYAR

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Abstract

The importance of scientific-approach teaching and learning has been urged by Indonesia's Ministry of Education. However, its implementation may vary according to school condition. This research aims to assess the implementation of scientific-based learning in Karanganyar. A comparison between Indonesia and Malaysia is Assed. This assessment will be very useful in giving real representative portrait of the implementation of scientific-based approach teaching and learning. A classroom-based observation trough in depth interview has been conducted at SMPN I Karanganyar, one of the most prominent middle schools in Karanganyar. This research focused on three domains i.e. teachers' professional skill, teachers' readiness, and school. A qualitative analysis was used to assess the obtained data. The result showed that the root of cause of why teachers do not prefer to use scientific-based approach in their teaching and learning activities is related to the duration of teaching and learning. Insufficient time allocation allocated by school becomes the main determinant affecting teachers' teaching and learning strategy.

Keyword: duration of teaching, education, scientific-based learning

1. Introduction

The Indonesian National Education Philosopher [1] in 2013 curriculum learly states that curriculum is used as a constitutional praxis. The curriculum as a contextual praxis means that the curriculum is expanded with the addition of the need for mutual commitment to agree on the necessary activities as part of the learning process to achieve a certain target, that is, to achieve meaningful learning. One way to achieve meaningful learning is to use a scientific approach in the 2013 Curriculum.

Two important things based on scientific learning are interpreting and explaining [2]. Interpreting is done to obtain data based on scientific steps, whereas explaining is done to explain the result of data interpretation. Scientific learning is an important type of learning to be conducted in school. Scientific learning helps students to think systematically so that students will understand the lessons taught more easily. Concepts derived from scientific approach are testable. Each concept is systematically explained by confirming and investigating to obtain the acceptable concept.

Daryanto (2014, p.51) reveals that scientific learning is a learning process designed to enable students to construct concepts, laws, or principles through observing, questioning, associating, experimenting and networking which consists of communicating and implementing. The

objectives of scientific learning [4] are based on the advantages of scientific approach: 1) scientific approach can improve students' thinking ability, especially high-order thinking; 2) scientific approach can form systematic problem-solving skills; 3) the students will get the results of meaningful learning, 4) scientific approach is able to assist students in communicating their ideas.

Scientific approach is important to be implemented in the learning process to achieve meaningful learning. Scientific learning becomes the instrument that connects students' perspectives to organize a learning process in order that they can design their own learning activities and find solutions to learning problems systematically and scientifically [5]. Learning with scientific approach is a learning that has the characteristics of inductive thinking where students are taught to construct the knowledge of various information obtained and then conclude information into a new concept [6]. The scientific approach will enable students to investigate, develop, and present the work they compile to achieve innovative, productive, creative, and affective learning outcomes useful for their future.

The government has changed education system so that we can keep in pace with the new curriculum adopted in the 2013 curriculum. *Kemendikbud* [7] stated that the learning process in the 2013 curriculum for all levels is carried out

by using scientific approach. The approach is enriched with problem-based and project-based learning models.

- a. Observing
Activities done in the process of observing are reading, listening, and perceiving. Observing helps students to find information accurately.
- b. Questioning
Questioning process develops students' creativity, understanding, and ability to formulate questions in order that they are able to develop their active skill and critical thinking.
- c. Gathering information / experimenting
Activities conducted are experiments, reading sources other than manuals, observations, and interviews
- d. Associating / information processing
Activities done are aimed to process the information collected used to generate new conclusions relevant to the theory.
- e. Communicating
Activities done are delivering the results from observing to associating activities.

Structurally, the learning process set by the government in 2013 curriculum is using scientific approach in the learning process. In fact, the learning process conducted in SMP N 1 Karanganyar is still far from the scientific process. Therefore, this study aims to obtain information about the implementation of scientific learning in SMP Negeri 1 Karanganyar conducted by teachers.

2. Method

This study was considered as a case study. Case study is appropriate because it allows the researcher to focus on a certain unit to produce an in-depth description by looking at a process with a small amount of respondents (Sugiyono, 2010). This study focused to the implementation of scientific-based learning in middle school in karanganyar. This research was conducted in SMP N 1 Karanganyar, one of the most prominent middle schools in Karanganyar. To collect data, there were two techniques used in this research, those are observing and interview. The researcher focused on collecting the data related to the teachers' professional, teachers' readiness, and school. The data were analyzed by using Miles and Huberman principle [9] consisting of three steps as data reduction, data display, and conclusion drawing.

3. Results

Teachers' Professional skill

Teachers' professional skills are related to their thinking skills. Based on the results of observations, teachers' thinking are reflected from teachers' teaching styles [10]. Teachers' ability in mastering the course materials effects the way they deliver the materials. The material presented by the teachers is relevant to the student's level of ability. The material is delivered according to the guidebook used in school. When delivering the material, the teachers did not face difficulties, the teachers could explain the material smoothly. This is because teachers often joined seminars and training that can increase their science knowledge. At the beginning of learning, teachers checked the readiness of students by greeting them, motivating, and checking whether the students brought the science books or not. However, teachers rarely invite students to study outdoors, in the school environment or in the community. The tasks assigned to the students are mostly taken from the students' handbook and students' worksheet. Teachers rarely provide tasks related to the surrounding environment and society so that the knowledge and skills taught are not yet practical. According to the teachers, this happens because of the time constraints.

Teachers' Readiness

Students' and teachers' learning readiness are related to how well both the students and the teachers prepare to learn to develop hardskill and soft skills. Based on the observation results, it was found that the teachers have prepared syllabus, lessonplan and worksheet before the learning started. Syllabus, lessonplan and students' worksheet prepared were in accordance with K-13 format which is standardized by *permendikbud*. However, in the teaching and learning process, the lesson learned was not the same as the lessonplan made. Teachers still used traditional methods, discussions, and presentations. Teachers often used traditional method such as question and answer section. Based on teachers' recognition, in the first semester, teachers taught in accordance with lessonplan and used scientific approach. But after several meetings, the expected learning outcomes were not achieved. That is why teachers often use traditional learning methods that are considered more effective and get more material targets even though a certain method is not necessarily appropriate to be used to teach other materials. Teachers rarely used innovative learning models that build students' creativity,

motivation, and interest. This is what makes learning activities were not effective. The learning was teacher-centered where the teacher was the only source of learning for students. Teachers still dominated classroom learning.

Based on the results of data analysis, the researcher found that the lessonplan used in SMP N 1 Karanganyar consisted of three main activities, namely introduction, main activities and closing. Introduction is an activity to guide learning and motivate students to learn. Main activities are the main stages in learning where five scientific steps must be done. Closing activity is an activity of reflecting and drawing conclusions based on the knowledge learned. At the observing stage, the activities done by the teachers during the learning process were: 1) observing the powerpoint of the material, 2) listening to the teacher's explanation, and 3) reading the book. At the questioning stage, the teachers invited the students to ask unclear material. Some students asked the material that was difficult. At the stage of collecting information, the teachers did not become a facilitator for students to find their own information, but the teachers directly explained the material to the students through traditional method. At the stage of associating and communicating, teachers did not facilitate students to communicate their opinions. The teachers explained the material in front of the class by lecturing while the students were asked to listen to the explanation from the teacher. Then the students were asked to answer questions given by the teachers based on the teachers' explanation. Therefore, students were less active in the learning process. Students in the front row were paying attention to the teacher, while the students in the back row were busy with their own activities, some were playing alone, and there were students who talked with their friends, and some even yawned. This proved that students were less motivated in following the learning process in the classroom. This will result in low understanding of students on the learning materials.

The use of Facilities and Infrastructure in the Learning Process

Aspects of the use of facilities and infrastructure in the learning process are related to the learning resources used. Facilities and infrastructure in this research consisted of two things, 1) facilities and infrastructure in the form of room and experiment tools, and 2) facilities and infrastructure in the form of technology. Based on the observations, SMP N 1 Karanganyar has a pretty good *IPA* laboratory

and has sufficient tools and practicum materials for practice. In addition, SMP N 1 Karanganyar also has a library that has a fairly complete collection of books. The facilities and infrastructure can be used to support the learning process. But in reality, teachers rarely invite students to do lab working in laboratories. Occasionally, teachers bring a laboratory tool and do demonstrations in the classroom, but rarely do lab work in the laboratory. In addition, teachers also rarely facilitate students to find other learning resources in the library through the tasks that are given. Teachers' tasks can already be done by reading worksheet and student handbooks. This makes students less creative and less able to solve the problems. Reasons teachers rarely use the facilities and infrastructure of schools owned because of insufficient time to achieve targeted learning objectives. The teachers invited students to do practicum once, the practicum is about temperature and heat. In 3 *JP* (*Jam Pelajaran*) teachers have to achieve 3 indicators of learning, but the results showed that 3 *JP* can only complete 1 indicator because the time was already out.

4. Discussion

Learning activities are educational processes that provides opportunities for students to develop their potential to grasp the expected competencies [11]. In order to achieve the expected competencies, learning needs to apply several principles: student-centered, fun and challenging conditions, and providing a diverse learning experience. Therefore, teachers should be able to choose a learning strategy that can facilitate students to develop their potential.

Teachers Professional Competencies

Teachers have an obligation to plan lessons, implement quality learning processes, and assess and evaluate learning outcomes. In addition, teachers are required to improve and develop academic qualifications and competencies in a sustainable manner with science, technology, and art (UU No.14 Tahun 2005). Based on the standards of the UK Training and Development Agency [12], the key to teacher professionalism is determined from several aspects:

- a. Critical understanding when teachers learn and teach
- b. Knowledge of effective learning and teaching
- c. Knowledge of managerial-strategy habits, and
- d. Understanding in using learning approaches and methods that can be used in

accordance with the characteristics of the material

In Malaysia, the criteria of professional teachers according to Ming-ming [13], commonly called Excellent Teacher Scheme, are:

- a. The ability to improve students' motivation in teaching
- b. The role of teachers as learning facilitators
- c. The use of instructional approach
- d. The use of technology to improve students' learning
- e. The support of good leaders

Based on UU No.14 Tahun 2006 on teachers and lecturers, the teacher criteria at SMP N 1 Karanganyar have fulfilled the professional competence applied by government regulation, i.e. planning the lesson (by making lesson plan), conducting good learning, and doing assessment and evaluation. Compared to the UK Training and Development Agency standard, science teachers of SMP N 1 Karanganyar use the whole key of teacher professionalism. Meanwhile, compared to the criteria of teachers in Malaysia, the science teacher of SMP N 1 Karanganyar has 4 of the 5 points expected on points 2), 3), 4) and 5). Thus, teachers have to be able to develop learning performance skills in accordance to the scientific approach recommended by the government.

Readiness of Teaching Process

Teachers' readiness is the condition of teachers in which they are able to develop students' creativity, and is a state of learning that depends on the teacher's strength and motivational structure [14]. The readiness of teacher in teaching and learning process is related to the integration of soft skills in teaching and learning activities. Based on Permendikbud [15], education in the 2013 curriculum aims to develop students' potentials into reflective thinking skills for social problems solving in society, and to build a better democratic society. Based on Permendikbud [16], the process of preparation of learning that needs to be done by teachers includes the preparation of learning process that meets the criteria:

- a. From being told to find out
- b. Various relevant learning resources based learning
- c. Using a scientific approach
- d. Aiming for integrated learning
- e. Inductive principle emphasized learning
- f. Learning at home, school, and community

According to Zamus & Mokelas [17], Malaysia currently uses a national curriculum which is applicative in learning and analogous to real-life examples. The characteristics of the teaching and learning process in Malaysia are:

- a. Based on community welfare
- b. Based on the idea that humans are social creatures that need to live together and face conflict
- c. Learning in the form of social problems that exist around the students
- d. Integrating learning materials with the surrounding natural
- e. Using problem-based approach (PBL)
- f. Integrating the other lessons

The teacher's readiness in conducting teaching and learning process is already based on the lessonplan made, in accordance with criteria of scientific approach, yet the learning process was not in line with the prepared lessonplan and tended to focus on the teacher. The teachers only fulfilled the scientific process at the 1st, 2nd, and 3rd stages. The teaching and learning process was dominated by the teacher, thus causing the students to feel bored quickly and less motivated. If the teachers apply a scientific approach, the students can be more active and get repeated information from other group explanations. Based on Martin & Gueguen (2015), children in the repeating condition will achieve better performance and improve personal information and influence learning, motivation, and evaluation of the learning context. Readiness of the teachers compared to the readiness of learning process conducted in Malaysia, the teachers did not integrate lessons with the problems faced in the environment. According to Simone (2014), it shows that problem-based learning is a pedagogical approach that brings attitude to meet the demands of 21st century educational reform. Teachers must be able to innovate and continue to practice to be able to bring students in the process of framing, analysing, and problem solving.

Linkage of Facilities and Infrastructure in Learning

Facilities and infrastructure are two of the factors affecting the achievement of learning

objectives. Sakat [20] stated that it is evident that the use of media in learning is able to stimulate effective learning and improve performance of education. Based on the observation in SMP N 1 Karanganyar, it was found that teachers had the opportunity to optimize the use of facilities and infrastructure in the school and community, because the facilities owned by the school are very supportive towards the learning. The use of supporting facilities and infrastructure must be in accordance with the characteristics of learning. Klenner [21] stated that it is not easy to provide learning materials that match the available media of learning. For, teachers are required to be creative in the environment that can be used as a means and a good learning media. The linkage between facilities and infrastructure in learning (multimedia technology) has an important effect in education and is one of the teachers 'steps to innovate teaching as well as to improve students' motivation and readiness [22].

5. Conclusion

The results of data analysis found that the teachers of science in SMP N 1 Karanganyar actually have good ability in conveying the concept to the students, have a good readiness in preparing the learning in the classroom, and have facilities that support learning infrastructure. However, the teachers were not able to implement a scientific-based environment in the classroom. The root cause of the teachers who rarely used a scientific approach was that the teachers had lack of time when applying scientific based learning. Amzat [23], found the fact that there is no significant relationship between professional teacher indicators and teacher's classroom management skill. So, researchers suspect that science teachers SMP N 1 Karanganyar lack the skills to manage the class well, especially time management. Classroom management is one of the ability to create effective learning in accordance with the time allocation provided. Several factors affecting classroom management are gender, age, teaching experience, seminar experience ever followed, and type of school [24]. Therefore in the next research other researchers can discuss about the factors that affect classroom management in SMP N 1 Karanganyar.

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ROLE OF YOUTH AS SUCCESSOR MADDAWA-DAWA TRADITION IN THE CONTEXT OF FORMATION OF CHARACTER (DESCRIPTIVE STUDY IMPLEMENTATION OF MUTUAL COOPERATION IN BUGIS VILLAGE)

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Abstract

Currently youth behavior that is inconsistent with the character of the nation and the declining youth awareness of the maddawa-dawa tradition. This study aims to obtain a picture of the role of youth and the implementation of maddawa-dawa tradition that reflects the mutual cooperation character is part of the civic culture. The formation of character is one of the main focus of the government in education.. The study used a qualitative approach, descriptive methods. Subjects were young, village, and community leaders. Data collection technique used observation, interview, and documentation study. Data were analyzed using data reduction, and conclusion. Results of the research is the role of youth in the maddawa-dawa tradition should be improved as a form of community service. Youth in the community became a major role in continuing the traditions that exist. Youth are in the middle generation between the old generation and the generation underneath. Thus, should be able to balance between the two. Therefore, the role of youth in the community as Karang Taruna is As the next generation of tradition, learn and understand the traditions and habits of the elderly, apply in everyday life among his generation, accompanying the next generation in the process of understanding, implementation and evaluation of maddawa-dawa tradition and the latter, can provide the experience of this tradition to the next generation. Maddawa-dawa tradition form is together in completing the work, for example, in celebration of the event, tasmiyah, thanksgiving, and and the annual festival held in the village that is Kaluku makkiana. Maddawa-dawa tradition as a medium that can build youth paradigm of mutual cooperation.

Keywords: Youth, Maddawa-dawa Tradition, Mutual Cooperation, Character

1. Introduction

Development of national character is a great idea initiated by the founding fathers. The existence of a nation is determined by the character it has. Only the nation has a strong character that makes it a dignified and respected nation other nations. Because of the importance of the character of the formation of character is part of the national education goals set forth in the Law of the Republic of Indonesia Number 20 of 2003 concerning the national education system Article 1 states that among the objectives of national education is to develop students' potentials to have the intelligence, personality and noble character [1]. The mandate of the National Education Act of 2003 intended that education is not only an intelligent form Indonesian people but also character, so that will be born generation of people who grow up with a character that breathes the noble values of the nation and religion.

As a form of implementation efforts Strengthening the Character Education (PPK) as a mandate delivered President Joko Widodo stated in Nawa Cita on the importance of moral education and character, the Ministry of Education and Culture held a discussion forum to listen to the best practices for deploying PPK from school has implemented in the learning process. The components of the implementation of Character Education Strengthening (PPK) is respect for local knowledge and empowering local advantages. Only with a strong character, national identity is established and growing competitiveness of the nation that is able to meet the challenges of this time.

The characters are to be developed in this program is a character education philosophy initiated by Ki Hadjar Dewantara. The characters in the form of synergy between the liver process, cultivate body, cultivate taste, and imagination that appeared in the 18 character values that is independent, democratic, curiosity, the spirit of nationalism, love of the homeland, recognize

excellence, friendship, love peace, love reading, care for the environment, social care, responsibility and others. Those values are expected crystallizes on students that have a main character value that consists of religious, nationalist, independent, mutual cooperation and integrity. Indonesian society is known for friendly attitude, familiarity and mutual cooperation in everyday life. With mutual cooperation will foster a sense of togetherness, promote social solidarity, strengthens kinship, public awareness of general interest and social responsibility, creating a harmonious, high tolerance and a sense of unity in Indonesian society.

Mutual cooperation is an activity carried out jointly and voluntarily for the activities that is being done to run smoothly, easily and lightly. Thus, there is sincerity and awareness to help each other for the sake of the completion of the work. The existence of a cooperation that requires people to be responsible in society. As stated by reference [2] cooperation is intended as a collaborative effort between individuals or groups of people to achieve one or several goals together.

One of the growing value of local knowledge and potential, especially in society Bugis village in Kutai Kartanegara, whose majority ethnic Bugis is Maddawa-dawa tradition as heritage. Maddawa-dawa as tradition generally Bugis tribes that in practice this must be done collectively or jointly. This tradition contains the values of teamwork, compactness, tolerance, solidarity, and concern as a form of mutual aid character of the community. This tradition is carried collectively meaningful as a medium of communication between the families and relatives, or media for friendship and promote integration between people. Society in the tradition of maddawa-dawa generally come to help without any invitation or summons by the person who will hold a wedding party or other activities, but people will come by itself to participate as mutually inform one another or spread by word of mouth the communities in around.

Social reality, especially the youth today was already much different from the past due to the rapid globalization become more dense as well as all public activity in his life. The impact caused by a very busy activity has resulted in cultural values ever built by the ancestors increasingly eroded over the times. At the very rapid development period is then born ideas or ideas of society by leveraging the use of services in a variety of ways, such as the use of courier services, services of a housekeeper and many

caterers or catering. It is feared maddawa-dawa activities becoming obsolete society and affects the solidarity of rural communities and youth are generally solid.

Through maddawa-dawa, a family can also directly provide socialization functions as a legacy Maddawa-dawa existing habits in the family, relatives and the community. This cultural inheritance has the function of respect for elders or their ancestors and also serves to maintain the integrity of which has been built in the family.

In the modern era of globalization is currently expected character of mutual assistance is able to remain strong and deeply imprinted on the psyche of society, especially the youth as the younger generation successor to the nation. Youth actually has a role and strategic function in the development of construction for the nation and the state, the good and bad of a country can be seen from the quality of its youth, because they are the future generation should have a strong character to build the country, has a high personality, the spirit of nationalism, is able to understand the knowledge and technology to compete globally. However, the current reality turned out to youth also have a wide range of issues as proposed by reference [3] that the problem of youth today who become urgency is the declining spirit of idealism, patriotism and nationalism youth. The occurrence of promiscuity, drug abuse and illegal drugs. According to the authors, another problem faced by youth are more inclined youths especially liked to imitate the cultures outside of the native culture of our own. They considered that Indonesian culture is a culture that is ancient, monotonous and boring. Love and pride in their own culture has been lost. Youth with all its problems should be directed to something that is positive.

Karang Taruna youth as a social organization is the right sphere in growing young characters in Kampung Bugis with positive activities undertaken may be an example for other communities, especially the local youth. In society, youth is the successor to the ideals of national struggle and a resource for development of the nation for the youth as the hope of the nation can be interpreted that the young master who will control the future. Therefore, the youth as a central point which is located between the elderly and young people is essential for learning to defend and learn how to give a good example to the next generation. The importance of youth as the hope of the nation must be nurtured in order to face global challenges, as mentioned above, the need to maintain the character of

today's youth, for the youth in Indonesia is expected to be back in spirit to preserve the tradition of maddawa-dawa as a culture of mutual cooperation and civic culture.

Based on some of the above, it is very important for the preservation of traditions of mutual aid youth through tradition "Maddawa-dawa" committed in the village of Muara Badak Ilir Bugis Village to preserve the national culture is used as the foundation of unity in the community, state and nation. Especially the youth as the nation's future should have the character and citizenship skills that suits the character of Pancasila. Maddawa-dawa is an example of the mutual cooperation and a manifestation of the good citizens of skills. This study aims to obtain a picture of how the role of youth in community activities and the implementation of maddawa-dawa tradition in Kampung Bugis of the village Muara Badak Ilir.

2. Method

This study used a qualitative approach. The method used is descriptive with reviewing critical analysis of information or data. The research was conducted in the village of Muara Badak Ilir, Subdistricts Muara Badak, Kutai Kartanegara Regency, East Kalimantan Province. The informant is the village, the board of youth, and community leaders. Considerations in the selection of informants is because society as an observer and implementer maddawa-dawa tradition. Instruments in this study were researcher fully engage in activities that are supported by the guidelines informant interviews, and additional questions. Data was collected through interviews, observation and documentation. Data analysis was conducted according conception of reference [4] with the steps of data reduction, data display and conclusion/ verification.

3. Result and Discussion

Reference [5] "Kampung Bugis" of the village Muara Badak Ilir, located in Subdistricts Muara Badak, Kutai Kartanegara Regency, East Kalimantan Province with a total area of 62,000 hectares. Muara Badak Ilir have 1 (one) Hamlet consisting of 14 Neighborhood association (RT)

The boundaries of the village of Muara Badak Ilir is:

- a. North side adjacent to the village of Gas Alam,
- b. South side is bordered by the village of Muara Badak Ulu,

- c. West borders the village of Batu-batu,
- d. East with Makassar Strait.

The role of the youth mentioned in the Law of the Republic of Indonesia Number 40 of 2009 Article 16 that, the youth play an active role as a moral force, social control, and agents of change in all aspects of national development [6]. Role to adopting this should be an important point in his daily life. Certainly inherited this is a good thing.

As a moral force, the youth in this regard are the subject of the implementation of maddawa-dawa tradition. Moral in the society should be strengthened with a good character and youth should be the main pioneer as a community that has a good strength. Youth also play a role in social control, what happens in the public good or bad, all must remain within the corridor defined the character of Pancasila. All the ugliness and social change must be controlled and monitored. In this case maddawa-dawa tradition as a youth media in controlling what happens in society. Lastly is as an agent of change in all aspects of national development. The expected changes is a change for the better. Of course, youth also need to be able to balance social change by maintaining the traditions that exist in society. As a pioneer and innovator in change for the better.

Youth not only as a subject in the preservation of traditions maddawa-dawa. The role of the elderly also play a role as a builder or directing so not out of line there. Character education is long proclaimed government in education. However, its implementation can be said to half the center if it is not offset by the positive environmental conditions. Implementation maddawa-dawa tradition in community activities is more specific activities to help aid in terms of public interest and private interests.

In accordance with what is stated in the Law on Youth, the youth of Village Bugis including those aged over 30 years are also still involved in youth activities. It was to help the passage of the activities and reminded the youth if there is a mistake because on the other hand there are young men who feel insecure or afraid to make mistakes in maddawa-dawa. Therefore, the role of youth in the community can be concluded that, as follows, (1) generation successor to the tradition, (2) study and understand the traditions and habits of the elderly, (3) apply in everyday life among his generation, (4) accompany the next generation in the process of understanding, implementation, and evaluation of maddawa-

dawa tradition and finally, (5) provide experience this tradition to the next generation.

The conclusion can be seen in the character traits expressed at the reference [7] private character traits such as moral responsibility, self-discipline and respect for the human dignity of each individual. While the public character traits that concern as a citizen, courtesy, heeding the rule (rule of law), critical thinking, and a willingness to listen, negotiate and compromise. So that the youth cannot think just for the sake of the person himself. They also have to think of the interests of others in relation to the cultural values that can cooperate well with each other.

Maddawa-dawa is a word derived from the Bugis language if translated into the Indonesian language means helping together. Tradition maddawa-dawa is the cultural heritage contained in the Bugis community in accordance with the message that has been given by the ancestors. Maddawa-dawa tradition illustrates the Bugis community from time to time. The cultural heritage serve as guidelines, philosophy and values that reflect the cooperation, tolerance, tolerance, solidarity, togetherness and care as a form of mutual aid character Bugis society.

Mutual cooperation is a form of cooperation between individuals and between groups that make up the status of norms of mutual trust to cooperate in addressing issues of common interest. These forms of cooperation of mutual cooperation is one form of social solidarity in society. In line with that reference [8] states that mutual cooperation is the key to contemporary Indonesian culture, which describes the community togetherness in it and all the measures taken in public life should be based on the concept of mutual cooperation.

Rural communities is very strong togetherness therefore every individual is aware of the social relationships between one another. Hereditary maddawa-dawa tradition has become part of the Bugis community life that has meaning to help people who will hold the wedding ceremony and also establish friendship between the members of the family, relatives and the community that there are about participating in the tradition of the maddawa-dawa.

Mutual cooperation is the hallmark of Indonesian culture is done for generations so as to form a real social behavior in the values of real social life. Values that make the activities of mutual cooperation has always nurtured in community life as a cultural heritage that deserves to be preserved. In this regard, reference [9] argues that the value of the system culture of

Indonesia contains four concepts: (1) Man is not alone in this world but surrounded by society, and the universe around him, (2) thus humans are essentially dependent in all aspects of life to others, (3) Therefore, he must always strive to the extent possible should maintain good relations with others motivated by the same spirit and flavor (4) always try as far as possible be fair, did the same with each other in the community, driven by the same spirit at a low height.

In these quotations, explain the relation of mutual cooperation as a cultural value. With these values make their mutual cooperation is always maintained and required in many aspects of life with a form adapted to the cultural conditions of communities.

Based on the interviews that have been done, there are some forms of mutual cooperation activities as a form of Maddawa-dawa tradition in society. Mutual cooperation by residents is very natural and does not require much time. Very natural meaning is derived from the conscience of the citizens who are directly aware of the importance of tradition maddawa-dawa. There is awareness of self that each maddawa-dawa is important to keep a sense of mutual understanding of each other. In public life certainly cannot live alone, we need others to help our troubles. Before we need the help of others, we should help others first. As expressed by (E) that, no sanctions for people who do not participate in maddawa-dawa activities. Maybe a little social sanction of the norm habit that can only be felt by those who are sensitive to other people's behavior. They feel uneasy or embarrassed when meeting with other people and older people. Activities that reflect the mutual cooperation as a manifestation of the tradition maddawa-dawa in society is (1) together helps in place people who want to hold a wedding celebration, (2) together to help place people who want to hold an event tasmiyah, (3) together to help place people who want to hold a circumcision ceremony, (4) kaluku makkiana festival, (5) community service cleaning up the environment, (6) when there are unfortunate death of the neighbors with their automatic comes to preparing everything, (7) assist citizens in the exercise of thanksgiving into new homes.

Some traditions maddawa-dawa is a routine activity carried out in Kampung Bugis village of Muara Badak Ilir. These activities can be divided into two types, namely maddawa-dawa tradition related to individual interests and activities related to the public interest. The activity can be presented in the following table:

Table 4.10 Forms Maddawa-dawa tradition activities related to individual interests and the public interest

Individual Interests	Public Interest
Wedding celebration	Kaluku makkiana festival
Tasmiyah event	Community service cleaning up the environment
Circumcision ceremony	
Thanksgiving into new homes.	
Unfortunate death	

Maddawa-dawa tradition can shape a person's character or personality. In this case, the young man who should contribute for himself and for the next youth generation. The benefits gained for itself are connected harmoniously.

One maddawa-dawa tradition in the community that is packaged in a festive event is to be a festival ceremony. On March 5 2017, kaluku makkiana festival held in the village of Muara Badak Ilir and Muara Badak Ulu. This event was attended by all the people that live in the village, residents from other villages can also follow in order to enliven. Kaluku makkiana festival is an annual ritual that is coupled to the village mappanre events, including mappanre tation 'and sijempo'e. Youth in this case followed by a mandate or suggestion from the village head to indicate that the Youth are still active in various activities, especially activities was witnessed by people from different regions. So it becomes a place to prove Karang Taruna have activities and a desire to come together to produce work.

With the other festive activities such as these, can train maddawa-dawa tradition can continue to exist and become habit of the youth. In this activity, the preparations are done requires a lot of people. Each person has a sense of responsibility for the implementation of these activities. Furthermore, the necessary deliberations together to prepare the material and equipment needed. Increased life care and responsibility can be started through activities such as hobbies of youth.

Youth as good citizens are required to have a strong character to build the country by understanding their rights and responsibilities as individuals, but it can be active in community activities, socialization with people around. The presence of youth is expected to support change and renewal for the community and the state. Action to reform in every field is the agenda of civil society towards the young man. Reform cannot be done by parents and children. Reference [10] identifying that a good citizen is a citizen who understands and is able to carry out properly the rights and obligations as an individual citizen has the sensitivity and social

responsibility, is able to solve its own problems and also problems of society intelligently according to the function and its role (socially sensitive, socially responsible, and socially intelligence), have an attitude of self-discipline, capable of critical thinking creative and innovative in order to achieve personal qualities and behavior of citizens and residents who either (socio civic behavior and desirable personal qualities).

In this regard, that the Citizenship Education has an important role in delivering supplies to the youth to mingle in society. The ability to socialize must be honed and trained through association and participation in the public interest and the private interests of others. From the examples or a little thing about the concern for the surrounding environment, it is expected the youth able to form his character becomes better again and according to Pancasila as well as for the advancement of the nation.

4. Conclusion

Karang Taruna have a very strategic position in increasing knowledge about character education. Youth organization as a container and the association of youth in community activities. Gathering of youth in youth gives the sense that the youth in the village active in carrying out its duties and functions as a young man who cares about everything that happens in the community.

Maddawa-dawa tradition is habitually resident in mutual cooperation, mutual assistance in daily life for personal interest and the public interest. Mutual cooperation is jointly complete a job that can be completed quickly and lightly. Willingness to follow maddawa-dawa required sincerity and concern without expecting anything in return from anyone. Therefore, maddawa-dawa tradition can train and shape the character of young men who care about the environment.

The existence of this tradition can prove that in our modern society, there are habits of residents who are very concerned about the interests of others. In order to maintain the tradition and the establishment of a better character that youth be very instrumental in this

regard. Youth must be able to learn and retain this tradition that lives for the better future.

In addition to maintaining the tradition of maddawa-dawa, the economic life of the young man must also be considered. When a young man is able to work and earn money to make ends meet, it did not become a major obstacle again in a follow maddawa-dawa tradition. Youth clubs should be able to create a comfortable condition and situation for youth to gather and discussion about community life. Therefore, Karang Taruna create training activities to provide supplies to the youth to develop their talents in accordance with the purpose of Coral cadets that have been set by the government.

Role of Youth In Maddawa-dawa Tradition in Kampung Bugis

Very important role of young people in public life. Especially in community activities that require a lot of people. Activities that cannot be resolved individually, so that the solution takes some people. Youth in the community became a major role in continuing the traditions that exist. Youth are in the middle generation that is between the older generation and the generation below it. Thus, should be able to balance between the two. Therefore, the role of youth in the community can be summed up as follows:

- 1) Generation as heirs to the tradition,
- 2) Learn and understand the traditions and habits of the elderly,
- 3) Apply in everyday life among his generation,
- 4) Accompanying the next generation in the process of understanding, implementation and evaluation of maddawa-dawa tradition and the latter,
- 5) Provide experience this tradition to the next generation.

Forms Maddawa-dawa Activities That Reflects The Mutual Cooperation in Kampung Bugis

Implementation maddawa-dawa tradition in a variety of activities can be described as follows:

- 1) Together helps in place people who want to hold a wedding celebration,
- 2) Together to help place people who want to hold an event tasmiyah,
- 3) Together to help place people who want to hold a circumcision ceremony,
- 4) Kaluku Makkiana Festival,
- 5) Community service cleaning up the environment,

- 6) When there are unfortunate death of the neighbors with their automatic comes to preparing everything,
- 7) Assist citizens in the exercise of thanksgiving into new homes.

Efforts to overcome the constraints of preservation maddawa-dawa is as follows:

- 1) Subtly give understanding to the youth about the importance of community life. Conversations through formal and informal meetings as do youth typically in the assembly
- 2) Maximizing organizations that exist in society. Youth Union of Muara Badak (PPMB) is one of the organizations / associations to revive the tradition maddawa-dawa it,
- 3) Building a sense of community through interesting activities, apply it in daily activities, supervision and assistance to young parents, especially to his own son. Creating a new innovation or a festive event of maddawa-dawa tradition by linking culture is something that is well and good to do with eliminating the meaning of the tradition maddawa-dawa it. In essence maddawa-dawa is a job that requires sincerity and good mentally to get through it. Resulting in the formation of character really comes from their individual youth.

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LINGKAGE BETWEEN ECOLOGICAL KNOWLEDGE AND ECOLOGICAL ATTITUDE IN HIGH SCHOOL STUDENT IN INDONESIA

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Abstract

The importance of environmental education is well known globally among societies. Environmental education is gradually promoted as a sustainable tool in protection of the environment. Environmental education is found across school curriculums in Indonesia. The objectives of the curriculum is ecological literacy where has been investigated in the current study. Studies related to ecological literacy that have been done showed varieties of interconnection pattern between knowledge and attitude. This research aims to ascertain linkage between ecological knowledge and attitude in high school student in Surakarta Indonesia. An ecological literacy survey was applied towards 60 student participants in Surakarta in the 11th grade. The data were collected using the Ecological Literacy Scale. Correlation analysis was used to correlate data of ecological knowledge and attitude. The result showed there is significant correlation between ecological knowledge and attitude. The ecological knowledge has a power to affect student attitude, this because of that the cognitive structure has an impact to the affect.

Keywords: ecological literacy, ecological knowledge, ecological attitude

1. Introduction

Since the Earth Summit in 1992, sustainable development has become a popular term, and education has been viewed as one of the major vehicles for achieving sustainability. The UN has declared 2005 to 2014 as the Decade of Education for Sustainable Development (DESD) [1].

The term sustainable development is subject to many different interpretations and definitions. The United Nations World Summit (2005) 5 affirmed the concept of three pillars of sustainability - the economic, social and environmental factors that need to be taken into consideration, and their cultural context. There is increasing recognition that these three factors are interconnected, overlapping and interdependent. Drawing on both the 1987 definition and its 2005 recalibration, the present guidance defines education for sustainable development as follows, Education for sustainable development is the process of equipping students with the knowledge and understanding, skills and attributes needed to work and live in a way that safeguards environmental, social and economic wellbeing, both in the present and for future generations [2]. The other important concept accompanying the concept of "sustainability" is "ecological literacy".

Ecological literacy [3] in its broadest sense can be defined as an ability to "read" the many interwoven relationships (biotic and abiotic) that are built of the Earth [4]. Ecological literacy is a sustainability indicator measuring how much the products are consumed at the end of human activities and at which point the consumption has exceeded the national and global limits. Ecological literacy emphasizes the ecology that underlies this economy. It places humans as integral parts of ecosystems and recognizes the impact of relationships among humans and other species. Ecological literacy includes the need for understanding ecological relationships and basic thermodynamic laws and doing so through immersion in the natural environment. Ecological literacy is holistic, emphasizing connectivity and continuity with fewer divisions and disciplines, recognizing commonalities among organisms and promoting the strength that exists in diversity. It gives great importance to relationships within human communities and social infrastructures, highlighting interactions amongst humans as most important in the educational experience rather than the scores embedded within testing priorities. Ecological literacy's approach begins with the development of care and the voices of individuals. It works its way out and up, not from the top-down, with authoritative commands. Ecological literacy fosters respect and care for other humans, for

other species and their ecological needs for survival, especially those species whose voices are not being “heard.” Ecological literacy is more than a simple name change from the environmental literacy goal for the U.S. educational system set forth by the government in 1965, with this statement: “It is also vital that our entire society develops a new understanding and a new awareness of man's relation to his environment” [5]. Ecological literacy does not necessarily require the ability to read ecological literature or the ability to read at all. It does, however, include “reading” the patterns, cycles and systems of the Earth, knowing that the whole of the Earth as an ecosystem is greater than the sum of its many parts [6] and realizing that human actions should nurture the integrity of the Earth [7].

Actually ecological literacy means more than an indicator with regards to sustainability owing to the benefits of being an educational approach for sustainability and getting over the physiological perspectives of especially some current global environment problems. In this context, we think that the ecological literacy is more than an indicator for sustainability. It has the merits of being an educational approach to sustainability, especially concerning overcoming some of the physiological perspectives of current global environmental problems [8]. With this point of view, it can be said that, the basic emphasis on ecological literacy is on the sustainability concept, which stipulates the increase in the bio-productive areas that have the capacity to renovate themselves and to maintain their renovation abilities, including the idea of leaving a preserved environment to next generations.

Within this context, for the sustainability of life, it is imperative for individuals to adapt their life conditions and economic activities with regards to the bearing capacity of the Earth [9]. By learning our ecological literacy, we can see the size of the damage that we give to the environment and we can identify the measures that need to be taken against them. Therefore, the importance of involving the concept of ecological literacy in environment education curricula becomes clear. We can raise individuals who are sensitive to the environment and have high awareness levels with the integration of the ecological literacy applications to the education setting [10].

Students are the next generation who will be responsible for the preservation of the environment in the future. Students who have a high environmental awareness will be capable of protecting the environment. Later, future

conservation managers, landscape planners, environmental engineers, or public health managers, among others, should be able to modify current practices or to conceive novel solutions for environmental issues within their fields of activity.

Within this context, it is necessary for students to complete their education equipped with required knowledge and skills. Therefore, students should be introduced to the concept of ecological literacy before they pass from senior high school. That's why ecological literacy concept absolutely should be included in the current contents of the subjects, especially science and technology programs. Determining the students current status in ecological literacy awareness issue will be beneficial in the reconstruction of education programs. An analysis of the contents of the subjects shows that especially science and technology students have more duties and responsibilities. Therefore, science and technology students should be equipped with necessary knowledge and skills regarding the issue before they pass from senior high school. Therefore, in this study, science and technology students' ecological literacy awareness levels were aimed to be evaluated.

2. Method

The present research is a quantitative study, and a descriptive research model was used. Since the survey method is one the most commonly used methods, descriptive studies are generally known as survey studies [11]. Survey studies are the ones in which researchers provide detailed information about the current situation [12]. In this research, the cross-sectional survey model, in the descriptive research model, was used in the determination process of the ecological literacy levels of senior high school students.

Senior high school students studying at the State Senior High School of Surakarta in grade 11th were the research population. To determine the sample of the research, the stratified purposive sampling method was applied. Total Individuals in the population were 60 students. To determine the population features and to be able to compare between the units, stratified purposive sampling method was chosen.

The ecological literacy instrument was developed through a validation process with a pilot test to measure the level of students' ecological literacy.

The first part of the ecological literacy instrument contains knowledge relating to the concept of ecology. In this dimension of knowledge there are 33 items. The second part of

the ecological literacy instrument contains concern for the environment. This section contains 52 items. The third section is a new ecological paradigm (NEP) adapted from Dunlap's scale ecological [13].

During the preparation of the Ecological Literacy Scale, firstly related literature was reviewed, and the 120-item scale that was drafted was presented to 1 field expert, 1 education expert, 1 language expert, and 1 evaluation and assessment expert for their critical review. The scale was reduced to 100 items after the first round of review, which was reviewed again by 2 field and 1 language expert. The final version of the scale included 100 items with 3 sub-dimensions.

The Ecological Literacy Scale includes 3 dimensions, namely knowledge, concern and attitude (NEP). There are 33 items in knowledge,

52 items in the concern dimension, 15 items in the attitude (NEP) dimension. The reliability coefficient for each dimension was found as 0.65 for knowledge, 0.71 for concern, 0.89 for attitude (NEP).

Five-point Likert scale was used for all items. Decreasing points were given as 5 points to "Definitely agree", 4 points to "Agree" statements, and so on. The items left blank by participants were considered as 0 point.

To determine the ecological literacy level of students, descriptive statistics was used. Correlation analysis was used to determine the linkage between ecological knowledge and ecological attitude.

3. Result

Table 1. The relationship between knowledge and attitude among high school

Correlations			
		Knowledge	Attitude
Knowledge	Pearson Correlation	1	.442**
	Sig. (2-tailed)		.000
	N	60	60
Attitude	Pearson Correlation	.442**	1
	Sig. (2-tailed)	.000	
	N	60	60
**. Correlation is significant at the 0.05 level (2-tailed).			

The Pearson test was used to observe the relationship between two variables. This test is only explaining the strength of the relationship and also whether there is a significant relationship or not between level of ecological knowledge and attitude of the high school students. Significant level used is the confidence level of $p < 0.05$.

The relationships were investigated among knowledge and attitude. The result showed that there was significant relationship between awareness and knowledge but it was low positive correlation. Based on the table of Guildford Rule of Thumb, the strength of relationship was low about environmental topics [$r = 0.442$, $\text{sig} = 0.000$].

4. Discussion

Student behavior is an implementation of the knowledge they have gained in learning. This behavior is realized in the form of deeds associated with prevention of environmental degradation such as participating in

environmental love activities, forest conservation, energy saving, recycling waste, and buying and using goods that are environmentally friendly. Knowledge factor is a very supportive factor for students to behave. This is in accordance with the theory proposed by Soekidjo Notonegoro that one of the factors that influence one's behavior is the level of knowledge. Student behavior in keeping the environment will be closely related to the students' knowledge of the environment. More knowledge of the environment will encourage students to reduce the form of environmental damage [14].

The issue of environmental issues is an unsolved issue, requiring a very serious and thorough handling. Through various things can be cultivated so that environmental damage can be prevented and reduced. One of them is a comprehensive explanation through lessons at the senior high school level. It is expected that with increasing knowledge of the environment in

schools, it also improves students' behavior in preventing environmental damage [15].

Students' knowledge of maintaining the environment has a positive relationship with student behavior in preventing environmental damage. This happens because students gain knowledge about environmental damage one of them is global warming and environmental pollution learned in science lessons [16].

Knowledge factor is one of the factors that support student to behave. This is in accordance with the theory proposed by Soekidjo Notonegoro that one of the factors that influence one's behavior is the level of knowledge [17]. Student behavior in preventing global warming will be closely related to the students' knowledge about pollution. The more knowledge about pollution will encourage students to reduce the form of environmental damage. According Soekidjo Notonegoro there are several factors that influence one's behavior such as experience, facilities, beliefs, and socioculture. One of them is the lack of waste facility in Pakuan University causing the students not to dispose of the garbage in their place, the different condition of socio-cultural background of the students also causes unequal behavior although they have the same level of knowledge [18].

In addition there are factors of perception, desire, will, attitude, motivation, and intentions that can also affect a person's behavior form. Although having a high level of knowledge but not balanced by a strong desire or intention of the heart, will have a low effect on changes in student behavior to prevent environmental damage [19].

The issue of environmental damage is a very important issue that requires a very serious and comprehensive treatment. Through various things can be cultivated so that environmental damage can be prevented and reduced. One of them is a comprehensive explanation through the curriculum in the preparation of environment-related learning at the senior high school level. It is expected that with the increased knowledge of the environment in high school, it also improves students' behavior in preventing environmental damage.

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IMPACT OF EDUCATIONAL ATTAINMENT ON POVERTY REDUCTION IN INDONESIA: AN ECONOMETRIC ANALYSIS

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Abstract

Poverty is a major threat for many developing countries including Indonesia. The Indonesian government has strongly pursued poverty reduction through some programs and policies, yet the issue of high rate of poverty is still problematic. Education in every sense is one of the fundamental factors of achieving sustainable economic development. Furthermore it is believed that education is a key weapon against poverty. Hence it is important to investigate the impact of education on poverty reduction. The aim of this study is to examine the effect of different levels of education of the individuals as determinants of poverty in Indonesia. The data for this study come from the Indonesia Family Life survey wave 5 (2015). A logistic regression model is estimated based on the cross-sectional data, with the probability of an individual being poor as the dependent variable and a set of educational levels and other control variables as explanatory variables. The results indicate depict that improvement on educational attainments reduce the probability of being poor of the individuals.

Keywords: Poverty, education, policy

1. Introduction

Education confers personal benefits to individuals (private returns) and also social benefits to society (social returns) as a result of improvement in education level of average people. Private returns, as discussed in human capital theory, are defined as net earnings for those who invest for their private education. Becker (1964) suggests a comprehensive theoretical framework about educational investment in various levels. Meanwhile, social returns from educational investment can be measured, for example, to what extent education has impacts on productivity and economic growth.

According to Fattah (2004: 28), the success of educational attainment in individuals can be measured from four indicators, including: (1) their ability to pursue higher level of education (2) their ability to look for employment, (3) their earnings, and (4) their attitudes and behavior within social, cultural, and political contexts.

The amount of income earned by an individual is an easiest indicator for measuring. This income indicates the amount of benefits from the return level of to education. Human capital theory explains that education is a form of an investment. An individual will spend a certain amount of money on short-term investment (lost

income and educational cost) in the hope that he/she will confer benefits in the future (long-term investment).

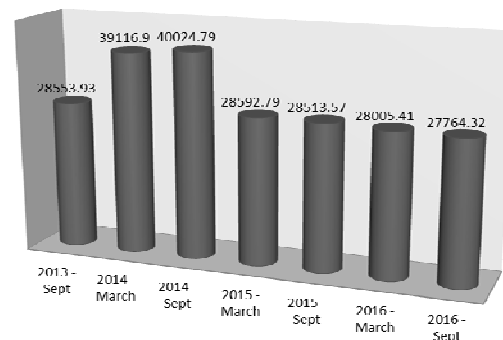


Figure 1. The Number of Poor People by Provinces, 2013 – 2016 (BPS:2017)

One of incisive critics towards national education is its inability to take society away from a poverty cycle. It is clearly noticeable that there has been a vicious circle between education and poverty. Because of being poor, people cannot afford to go to school, and this makes them difficult to get rid of poverty. It is widely perceived that education in Indonesia has considerable impacts on a large number of educated unemployment and also creates disparity between poor and rich, and dumb and

smart, rural and urban, or men and women (Wahid, 2008).

As shown in Figure 1, the number of poor people in Indonesia fluctuated over four years, from March 2013 to September 2016, but this number also tended to decrease by 2015. In 2014, the number of poor people increased significantly compared to the previous years, but then it decreased in 2015 and 2016.

Improving education is a possible way to reduce poverty in society. According to Blundell (2001), there are three measures can be used to see the impact of education on labor force income as the following: (1) the private return which consists of cost and benefit gained and expended by an individual, (2) the social return which clarifies various externalities or spill-over effects and includes transfer and tax, and (3) the labor productivity return which connects the rise of gross income with labor market productivity. The key component of those three measures is the impact of education on income.

It is well documented in the literature that education and poverty are strongly related, but mostly within the context of developed countries (Ngwane: 2002, Bracho: 2000). Only very few related studies have been conducted within the context of developing countries. With regard to this issue, the authors are interested to conduct research to estimate the impact of educational attainment on poverty reduction in Indonesia using the data from Indonesian Family Life Survey.

2. Research Methodology

Data description and source

The data used in this research was taken from the Indonesia Family Life Survey (IFLS) wave 5 (2015). IFLS, known as SAKERTI (*Survei Aspek Kehidupan Rumah Tangga Indonesia* or Indonesian Household Living Aspects Survey) was conducted over 5 periods in 1993, 1997, 2000, 2007/2008 and 2014 to collect contemporaneous information about a wide array of family life topics for a representative sample of the Indonesian population with high success (more than 90%) in rediscovering respondents. For this study, we used 18,431 respondents consisting of male and female respondents aged 16-65 years old.

Data Analysis Technique

The maximum-likelihood (ML) estimation method with probit regression was utilized in this research to analyze individual probabilities of being poor. This technique was chosen with consideration that linear probability model (LPM) has several problems as asserted by

Gujarati (2009: 552): (1) the non-normality of u_i , (2) the heteroskedasticity in u_i , (3) the unbounded

predicted probability (\hat{y}_i) may have nonsensical values that are less than 0 or greater than 1, out of the interval 0-1, and (4) LPM is not a quite interesting model because of its linear characteristic which leads to inconstant marginal effects. To alleviate those problems, a logit model is used to analyze categorical dependent variables with two categories. Since the unit analysis in this research is at the individual level, we used logit for individual data or ungrouped logit.

The probit model based on the cumulative logistic probability function has the following specification (Pindyck 1981:287):

$$P_i = F(Z_i) = F(\alpha + \beta X_i) = \frac{1}{1 + e^{-Z_i}} = \frac{1}{1 + e^{-(\alpha + \beta X_i)}}$$

Notation (e) is the base of natural logarithms that have a value of 2.718, while P_i is the probability of an individual choosing an alternative to X_i . The solution of the equation is to multiply both sides by $1 + e^{-Z_i}$ in order to get $(1 + e^{-Z_i})P_i = 1$

Divide the equation by P_i then subtracted by 1, so the equation can be written as:

$$e^{-Z_i} = \frac{1}{P_i} - 1 = \frac{1 - P_i}{P_i}$$

Recall that $e^{-Z_i} = 1/e^{Z_i}$ thus, $e^{Z_i} = \frac{P_i}{1 - P_i}$ by inserting natural logarithms on both sides, we obtain

$$Z_i = \log \frac{P_i}{1 - P_i} \quad \text{or} \quad \log \frac{P_i}{1 - P_i} = Z_i = \alpha + \beta X_i$$

In the above equation, as stated by Gujarati (2003: 596), notation P_i is the probability of choosing an alternative and $(1 - P_i)$ is the probability of choosing another alternative. The value $P_i/(1 - P_i)$ is the probability ratio of choosing an alternative and another alternative called the odds ratio. The logarithm (log) of the odds ratio is called logit, where X_i is the independent variable, α is the intercept, and β is the slope that measures the change of Z for each change of X .

To evaluate the statistical significance of a coefficient, we use the Z statistic (normal standard) compared to the normal table, or compare prob value with α (significance level). For the conformity test of the model or goodness of fit, R^2 or something like pseudo R^2 is used,

but this value does not have strong enough meaning in binary regress and models because it tends to be less than 1 (Gujarati, 2003: 605). Goodness of fit for a logit model is considered sufficient by only considering the significance and marks of its coefficient (Gujarati, 2003: 606).

The strength of association and/or overall test (F test) for a logit model is determined by looking at the value of X^2 (chi-square). The value is a comparison value (a likelihood ratio/LR test) between log-likelihood over a large model (whole model) and a small model (not whole or only a constant). If significant, there is a difference between a large or whole model with a small model or only a constant (Gujarati, 2003: 606).

Logit model was used in this study to analyze the probability of economically prosperous individuals. The value of P_i in this study is the probability of individuals whose welfare status is higher, with the value of engel coefficient above average. The value of $(1-P_i)$ is the probability of individuals whose welfare status is below average.

1, if the respondent's monthly income is equal to or below poverty line in each province (poor).)

0 = otherwise

Based on that situation, the probit model can be formulated as follows:

$$Y_i = \alpha_i + \beta_{1i}X_1 + \beta_{2i}X_2 + \beta_{3i}X_3 + \beta_{4i}X_4 + \beta_{5i}X_5 + \beta_{6i}X_6 + \beta_{7i}X_7 + \beta_{8i}X_8 + \varepsilon$$

Y_i : Prosperity Status (poor=1, otherwise=0)

X_1 : Dummy Variable for Residential Status (urban=1, rural=0)

X_2 : Dummy Variable for Marital Status (married=1, otherwise=0)

X_3 : Dummy Variable for Gender (male=1, female=0)

X_4 : Dummy Variable for Junior High School Education

X_5 : Dummy Variable for Senior High School Education

X_6 : Dummy Variable for Vocational High School Education

X_7 : Dummy Variable for Diploma Education

X_8 : Dummy Variable for Bachelor Education

E : error term

(1=JHS)
(1=SHS)
(1=VHS)

3. Results and Discussion

As summarized in Table 1, the estimated results show that 8 independent variables used in

this research are significant. There are 7 variables with significance at 5% level, consisting of dummy variable for residential status, marital status, gender, Junior High School, Senior High School, Vocational High School, and Bachelor. Meanwhile, dummy variable for Diploma is significant at the 10% level.

Table 1. The Estimated Results of Probit Model

Variable	Coefficient
Residential Status ^o (1=urban)	.1639371 (.024381)**
Marital Status ^o (1= Married)	-.1320771 (.026954)**
Gender ^o (1= Male)	-.5396765 (.0227)**
Junior High School ^o (1=JHS)	-.106852 (.0316019)**
Senior High School ^o (1=SHS)	-.3792644 (.0340924)**
Vocational High School ^o (1=VHS)	-.2585246 (.0363663)**
Diploma Education ^o (1=Diploma Education)	-.5712494 (.0628664)*
Bachelor Education ^o (1=Bachelor Education)	-.5482532 (.0401475)**
_cons	-.4626319 (.0340708)
Log Likelihood	-7881.9136
LR chi ² (8)	903. 11
Prob > Chi ²	0.0000
Pseudo R ²	0.0542

***, **, * indicate significance at the 1%, 5%, and 10% levels respectively

Table 2. The Estimated Results of Marginal Effect

Variable	Coefficient
Residential status ^o (1= urban)	.0381301 (.0055369)***
Marital Status ^o (1= Married)	-.0326233 (.0068971)***
Gender ^o (1= Male)	-.1358286 (.0059176)***
Junior High School ^o (1=JHS)	-.0245526 (.0070083)***
Senior High School ^o (1=SHS)	-.0795552 (.0062168)***
Vocational High School ^o (1=VHS)	-.0557939 (.0070618)***
Diploma Education ^o (1=Diploma Education)	-.1015674 (.00776)***
Bachelor Education ^o (1=Bachelor Education)	-.1046147 (.0059068)***

(^o) dF/dx is for discrete change of dummy variable from 0 to 1

Z and P > | z | Correspond to the test of the underlying coefficient being 0

***, **, * indicate significance at the 1%, 5%, and 10% levels respectively

Based on the marginal effect test, there is a statistically significant difference in the probability of poverty between urban and rural

areas (higher probability in urban areas by 3.8%). Respondents who live in urban areas are more likely to suffer from poverty than those who live in rural areas. The density of urban population increases the poverty rate. Poverty is relatively higher in the densely populated areas (D. Weziak-Bialowolska, 2014).

In addition, the high rate of poverty in urban areas can also be attributed to the greater number of employment in formal sectors, thus requiring much more educated workers. In rural areas, on the other hand, there are more employment in informal sectors, and thus requiring more skilled workers than educated workers.

In contrast to the result of the study conducted by Wardhana (2010), poverty profile indicated that higher rates occurred in rural areas than urban areas, and dynamic analysis showed higher presence of poverty in the period of 1993 compared to 2007. It was further found that poverty was more characterized as chronic rather than transitory. Poverty declined marginally between 1993 and 2000, but dropped significantly between 2000 and 2007.

The likelihood of poverty is also due to the marital status. Married people are less likely to suffer from poverty (lower probability in married people by 3.2%). In Indonesia, households with a single female without children have the lowest probability of becoming chronic poor, whereas single males with children suffer the highest probability (Xenia and Stefan, 2011). This condition is possibly caused by a family dependency which makes someone who has married attempts to earn a living. Furthermore, based on the estimated result, male respondents are less likely to suffer from poverty than females (lower probability in males by 13.5%).

The rate of poverty in Indonesia can also be attributed to the educational attainment. Respondents who completed only primary school level (a sixth-grade education) and lower levels are more likely to suffer from poverty. From the marginal effect test, it can be estimated that the probabilities for each education attainment are as follows: Junior High School (2.4%), Vocational High School (5.5%), Senior High School (7.9%), Diploma (10.1%), and Bachelor (10.4%). It means that the higher people attain education levels, the less they are likely to suffer from poverty. Higher education significantly reduces the probability of a household to be chronically poor or vulnerable (Widyanty, Sumarto, and Suryahadi, 2009; Bhatta, 2006).

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DEVELOPING MOBILE LEARNING FOR PRACTICAL EXERCISE IN ECOLOGY USING THREE-LAYER OBSERVATION FRAMEWORK

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Abstract

One prominent alternative in science learning is using of lab work or practicum. Practicum enables students to engage in activities that enhance their mastering of practical and theoretical science. Teaching ecology effectively could means involving an active data gathering in the field. Great challenge conducting a field work in Ecology is, how to make student focusing and concentrating in their tasks because, a complex situation will lead to an overworked working memory. Tree-layer observation framework is one of the mobile learning frameworks in field practicum activities. Tree-layer observation framework can help working memory steeply and orderly in accomplishing the tasks. This study was aimed at developing mobile learning application that operate on Android smartphone using three-layer observation framework. This study used research and development method ADDIE consisting of Analysis, Design, Development, Implementation, and Evaluation but in this study, it is restricted on Analysis, Design, and Development. The study was conducted in Biology Education Studies Program at State Islamic University of Sunan Kalijaga. The result of research is mobile learning applications for practical exercise in ecology using tree-layer observation framework with the quality of "Very Good" with the percentage value 81.8%. Base on questionnaire responses of students, it can concluded that the quality of "Very Good" is with the percentage value 82.5%. Application can be used for practical exercise in ecology.

Keywords: ecology, mobile learning, three-layer observation framework

1. Introduction

The fast changes of sciences, environment, technology, and society enforce bring changes in methods and strategies in learning science. Today, science learning is not only related to mastering of declarative-knowledge but also related to procedural knowledge in studying the nature systematically. When students just learn to memorize or re-study science, there is a possibility that they may fail competition in the global arena [1]. Therefore, ideally, science learning ideally is not just aimed at answering questions of "what", but also 'why' and 'how'. Being able to answer why and how questions clearly need students 'participation through active learning.

One prominent alternative in science learning is the using of lab work or practicum [2]. Practicum enables students to engage in activities that enhance their mastering of practical and theoretical science. Lab work help students to train scientific skills including: formulating research questions, making observation, dealing with data uncertainties, analyzing and interpreting data, and composing data-based

argumentations [3]. Lab work also plays an important role in building scientific skill process and widening students' scientific perspectives [2] [4] [5]. In addition, several researches in the lower level of education (for example high school) show that lab work brings positive correlation to students' scientific perspective [6]. It is also preferable that lab work could be delivered together with the delivery of scientific theory as it is normally given in a traditional classroom.

Lab work based teaching is needed in biology, especially subjects requiring direct experiences in the field. A specific subject that meets these criteria is ecology. Ecology is the study about the interaction between living things and the environment. The objects of Ecology include species, community, population, interaction pattern, material and energy flow, and climate change [7]. Generally, ecology deals with macroscopic objects and is a multidiscipline subject. Teaching Ecology effectively could means involving an active data gathering in the field, thus students' participations and collaboration with others is necessary [8].

Conducting a field work in Ecology bring a great challenge for both the teacher and students, especially to help student focusing and concentrating in their tasks. The complexity of the field situations may exacerbate the issue, especially related to on how students' brain using storing and processing information. Human brain works similar to the work of a computer's memory. As a consequence, similar to that of a computer, a complex situation will lead to an overworked working memory [3]. In the context of human beings, working memory is equal to cognitive system derived from human's brain, in which the information is stored and used [9]. It also applies to lab work, requiring cognitive system and memories stored in the brain. Yet, interestingly the storing capacity and duration of working memory are limited [10] [11]. An overload working memory will interfere how information is processed in the brain. Important information's compete with un-important ones, so that sometimes it leads to failure in accomplishing the task, especially a complex task requiring a practicum -a field data gathering.

Working memory works more effective if the information is loaded accordingly based on the tasks [3]. Cognitive Load Theory (CLT) states that instructional guides ease the task of working memory [10] [11]. The instructional guide acts as a scaffolding. In this regard, instructions help structuring and putting cognitive works in order. The guide will also deepen comprehension, improve learning independence, and facilitate knowledge transfer [3].

Our observation to the teaching and learning Ecology in UIN Sunan Kalijaga shows that the practicum is just guided by lab modules. Yet, the modules are lack of illustrations explaining the working procedure step by step. Nonetheless, the contents are not arranged systematically. The initial finding concludes that 50% of the students hardly understand the modules, while 67 % of the students state that the mathematical operation in the module is difficult, and 71% students state they could not use the directions independently.

Based on the presented problems, our idea is to incorporate smart phone technology in teaching and learning Ecology. Smartphone is an IT technology that can be used to facilitate self-learning. Smartphone has benefits of portability, flexibility, and high connectivity. Therefore, smartphone can support learning carried out inside and outside the classes [12]. Some literature also show that the phone can be used as a tool for field activities [4] [13] [14] [15].

In general, the commonly found mobile learning only presents course materials and feedbacks in the form of multiple choice questions. Such a mobile learning is not effective as instructional guides in practicum activities. Students tend to learn the materials only by reading so that the inquiry ability is less practiced. An alternative to overcome this problem is by integrating mobile learning using a particular framework. We call the framework as three-layer observation learning.

Three-layer observation learning is one of the mobile learning frameworks in field practicum activities. Three-layer observation learning consists of three stages: 1) guided observation, 2) Independent observation, 3) extended inquiry [13]. The three-layer observation learning framework not only provides feedbacks in the form of multiple-choice questions but also provides worksheets. Students' working memory is gradually guided so the students will focus on completing the tasks at hand [3]. Based on the background, this work is titled "Developing Mobile Learning for Practical Exercise in Ecology using the Three-Layer Observation Framework".

2. Method

This study is classified as a research and development (R&D) with the aim to develop mobile learning application products based on three-layer observation learning framework which will be used as a field practicum tool in Ecology. We used Procedures the ADDIE model, which stands for Analysis, Design, Development, Implementation, and Evaluation [16]. Due to limited time and cost, the research is only carried until the development stage while the evaluation stage is formatively conducted at every stage of the research.

The research was conducted in the Biology Education Departemen of UIN Sunan Kalijaga Yogyakarta. The study involved 1 media expert, 1 course-content (material) expert, 1 biology lecturer, 3 peer reviewers, and 25 students majoring in Biology Education.

The quality of the product is measured using questionnaires. Questionnaires are adapted from the development researches conducted by [17] and [18]. The assessed aspects consist of: curriculum, material presentation, implementation, evaluation, language, technical quality, usability, visual media elements, and compatibility. Meanwhile the aspects of students are the level of interest in the media, mastery of the course content, appearance, and accomplishment. The data collected in this

research are then analyzed using descriptive statistics that is by calculating the average score and percentage of ideal assessment. The scores are analyzed with descriptive quantitative and qualitative analyses.

3. Results

The result of the research is an android-based mobile learning application that can be used as a tool for practicum activities in Ecology. For the purpose of this research we chose a topic called "estimation of fresh water gastropods population". Then, our Android application is named "Gastropoda Air Tawar" (Freshwater Gastropoda). The application is saved into a master installer file with the extension *.APK (application package). The installer application master is used to install the application on the student's Android mobile phone.

The application consists of several sub menus including: Course Contents (Materials), Research, Evaluation, Discussion, and Information. Each menu has a specific function to facilitate students in the practicum. The

Materials submenu contains the explanation of freshwater gastropods and the roles of gastropod in the environment. The research submenu contains the steps of field ecology practicum as well as the explanation of field data gathering methods.

Discussion submenu serves as a communication platform among students through the Internet network. Students can send messages and comments using the platform. The evaluation submenu serves to evaluate students' understanding of freshwater gastropod materials and the practicum activities. The Evaluation submenu serves to test students' understanding of ecological practicum materials, especially study practice estimation of freshwater gastropods. The Info submenu contains a brief explanation of the app usage and contact info of the app developer that can be contacted.

Expectedly, the product aimed at improving the quality of learning, especially practicum in Ecology. The application has high portability and high flexibility because it runs on Android phones. App product display can be seen in the following picture:



Figure 1. (a) Layout of welcome screen, (b) Layout of main menu

The app runs both online and offline. The menu that runs on online mode is only the Discussion menu as it relates to its main function: facilitating the discussion process among students through internet network in real time.

The Development stage of the application is described in more detail as follows:

Analysis

The analysis phase started the with a preliminary study and a little literature review. The preliminary study was conducted through observation of practicum activities, questionnaires, and interviews with Biology

Education students of UIN Sunan Kalijaga. Observations were carried out during pre-practicum activities, field work (data collection), and data processing.

Based on our initial finding, it could be reported that 89 % of the student's did not carry reference books, 74% students did not carry identification books, and 11% students did not carry worksheets during practicum activities, although all of these were given before the practicum was due. Student's ad admitted that they were lazy to bring references and identification books because the physical books are too thick so they were less effective when

taken to the field. 84% students preferred to store materials and references in soft files rather than hard files.

48% students admitted to have difficulties in understanding the worksheets because they were not equipped with illustrations or pictures. All of these brought an impact on students' performances. Out of 7 groups, 3 felt difficulties in understanding the steps of practicum activity. 4 of 7 groups made procedural errors in collecting practicum data without direction from the course assistant. 1 of 7 groups made a mistake of using the practicum tools. 4 of 7 groups failed to perform titration - in measuring Dissolved Oxygen / DO - properly.

Based on our observation, it can be concluded that the student's found it difficult to perform field practicum without guidance from experts. In fact, the given worksheets is not functioning effectively. This is in line with Hung's opinion that the challenge of field practicum is lack of expert guides and appropriate field practicum tools [13]. Therefore an efficient practicum guide are needed to help the students when conducting practicum in real-time.

Interestingly, we noted that most students used smartphones to help their work, as well as to documents the practicum activities. It shows

that the students were more familiar with the practicality given by smartphones, especially when taking pictures. It was also concluded that smartphones were more preferable than digital cameras, although they have high image quality. When further observed, 98% of the students brought smartphones during the field practicum. These data were similar to those obtained from UNESCO which showed that the number of mobile devices users in Indonesia reached 91.7% of its total population [19].

In terms of operating systems, the students reported to used Android, iOs, Blackberry, and Java. Android operating system had the highest percentage of users (88%). Blackberry and iOs users were the second rank, with the percentage of users at 5% each. Java operating system was used by only 2% of the user. The data are presented in Figure 2.

The percentage data of students' mobile device operating system is similar to the data obtained from <http://www.gs.statcounter> which states that the android operating system occupies the highest percentage of market share of mobile device sales in Indonesia in a period March 2016 until March 2017 that is 76.3%. Percentage of android operating system outperformed other operating systems like iOs and Blackberry.

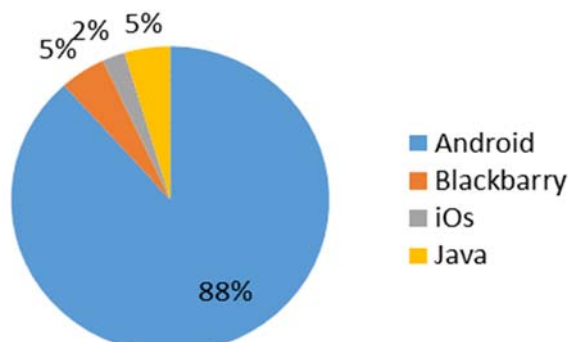


Figure 2. Percentage of the OS users

One of the factors that led to the increasing number of smartphone users is price, comparably cheaper than PCs. From the hardware side, the technology developed for smartphone has been claimed to be advanced, rapidly developed, and efficient. For example, the technology related to processor speed has been increasing significantly from 1.4 GHz in 2011 to 3 GHz in 2014. Also, mobile connectivity support capacity has increased from 2G, 3G, to 4G LTE [20]. Moreover, the low-cost device operating system is preferred and widely used by students.

The objects of ecological materials have the characteristics observed directly. The reviewed objects start from species, population,

community, and interaction, patterns of material and energy flow, and climate change in an area. Ecology deals with keeping nature in order to have the carrying capacity of the living creatures that live in it. Therefore, ecological materials must be connected to real-life problems and actions that can be done to overcome them [7].

Design

The next step is the design phase. In this phase, we developed a prototype of mobile learning application for Ecology Practicum. We designed interfaces, material frameworks, and the application frameworks. The interface application refers to the 7 principles of mobile

learning design, i. e. customized display with small screens, short and simple arrangement of materials, easy to operate with one hand, simple color elements, relevant content to the needs, and easily updated on a regular basis [17].

The framework used in the practicum menus refers to three-layer observation learning

[3] which consists of 1) guiding students with multiple choices, 2) guiding students with short questions, and 3) giving back answers directly in the application. The result of the design stage was an application prototype which was then continued at the develop stage.

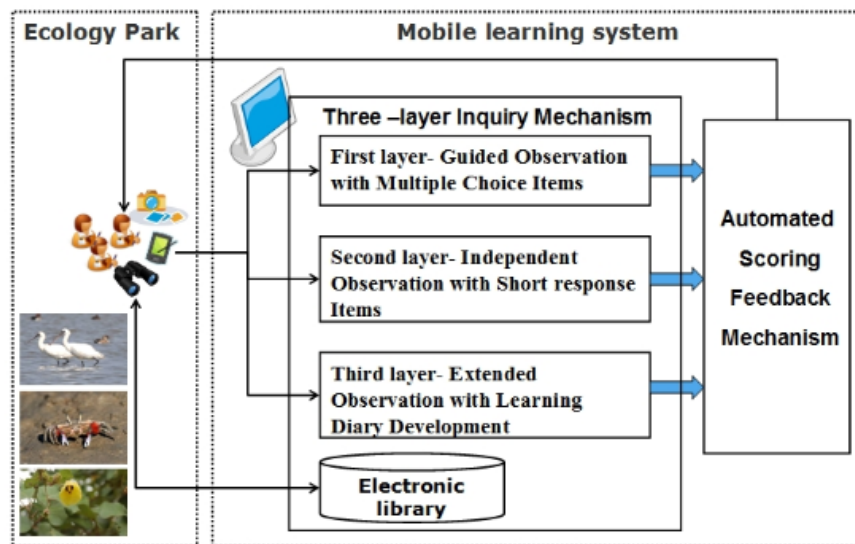


Figure 3. Tree-layer observation learning [3]

Develop

The Develop stage aims at assessing the quality of the product based on the assessment of the experts. The experts consist of 1 course

content (material) expert, 1 media expert, 1, ecology lecturer, 3 peer reviewers. The reviewers are chosen based on his competence in the field. The assessment results of all reviewers and peer reviewers are presented in Table 1.

Table 1. Product quality

No	Aspect	Percentage	Quality
1	Curriculum	84%	VG
2	Material Presentations	80,8%	VG
3	Accomplishment	82%	VG
4	Evaluation	78%	G
5	Linguistic	80%	G
6	<i>Technical Quality</i>	85%	VG
7	<i>Usability</i>	72%	G
8	<i>Elemen Visual</i>	88%	VG
9	<i>Compatibility</i>	82%	VG
Rerata		81,8%	VG

Explanation: VG-Very good, G-Good

At this phase, we assessed aspects such as curriculum, presentation of material, implementation, evaluation, language, technical quality, usability, visual media elements, and compatibility. Our product gained a total score of

98.20 with an ideal percentage of 81.8%. The X score (98.20) lies in the range $X > 72$ which falls into category Very Good (VG). Similarly, the ideal percentage (81.8%) is categorized as very good (VG).

The visual aspect gets the highest score, 88%. The visual element aspect measures the use of visual elements such as text, text alignment with background, and illustrations (images and videos). The ideal score of 88% indicates that the product displays visual elements very well, such as: text size, font selection, proportional text color, matching text and background, and high resolution.

The lowest percentage is in the product's usability (72%). The usability measures the ease of operating application. The ideal score is only

72% and it shows that the application is quite complicated in use when compared to the print-out worksheets.

Assessments and feedbacks from reviewers are used as a basis for improvements in mobile learning application products. After we refined the product, then we performed a limited product trial to 25 students majoring in Biology Education at UIN Sunan Kalijaga. The purpose was to explore students' responses to the application. The data can be seen in Table 2.

Table 2. Product Quality

No	Aspects	Percentage	Quality
1	Media Interest	84,4%	VG
2	Material mastery	76,8%	G
3	Display	86,4%	VG
4	Accomplishment	82,4%	VG
Total ideal percentage		82,5%	VG

Explanation: SB-Very Good, B-Good

Table 4 shows that based on students 'response, the product received a total score of 61.88. Based on the ideal scoring category, the X score (61.88) lies in the range $X > 60$ or Very Good (VG). The ideal percentage is 82.5% which falls in Very Good (VG) category.

4. Discussion

Overall, this mobile learning application has met the qualifications as a good source of learning. This criterion is based on the reviewers' assement of 81.8%, which falls into Very Good (VG) category. The results obtained from the limited trial on the students get the ideal percentage of 82.5% or Very Good (VG) category. In general, the application has met the 4 criteria of learning media, i. e. Relevance, ease, attractiveness, and expediency.

This mobile learning application plays role as a tool in ecology practicum. Humans have limited working memory capacity so they need to control the information processing [3]. One effort to improve control of the process in working memory is by applying the tree-layer observation framework. The Tree Layer

Observation Framework consists of three stages: 1) Guiding observation with multiple choice questions, 2) Providing self-observation with worksheets, and 3) Deepening observation with data in the format of journal entry [3] [13].

The first step, guided observation with multiple choice questions, is implemented by giving the students multiple choice questions in order to clarify the students' factual knowledge. The questions consist of 10 questions taken at random from the data base. The database provides 20 variations so that each student will get the questions in different order and form. Each question answered by the students will be directly accompanied by the answer key. The key is displayed immediately to help the student remembering the answers directly. At the end of the multiple choice session, students are presented with the score and the review of the answer. The score is used as a reference for the next step in the second phase. Only students who have scored above 60 are allowed to continue. The students who have score 60 or less than 60 should repeat answering the multiple choice questions.



Figure 4. (a) Exercise Screen shoot, (b) Discussion Screen shoot

In the second stage, the students are encouraged to perform self-observation by filling out a short spreadsheet on the application. The worksheet consists of location, DO water, pH of water, temperature, current velocity and sampling of species. The students can choose the worksheet that will be answered first. The view of the worksheet menu is shown in Figure 6a, whereas figure 6b is the view on the temperature worksheet.

Students explore the observation data more deeply at the third stage. The data collected in each worksheet is collected in a screen so that students can see in advance the data that have not yet been collected. If the data are incomplete or do not reflect the normal trend of measurement, the students can repeat inputting data to the worksheets. The purpose of editing this data is to allow the students to reflect their work.



Figure 5. (a) layout of practicum menu, (b) layout of temperature worksheet

Ecology practicum activities by using the mobile learning application are expected to increase the students' focus on the tasks and the practical activities can run more effectively and efficiently. The application has several advantages, such as: 1) running through a smartphone which is very flexible and portable to be operated for field activities. 2) The material comes with interesting drawings, icons, and panels. 3) The application is equipped with a gastropod identification key in order to make the

students easier to identify gastropods encountered in the field. 4) The application can run in offline mode so it is not completely dependent on the internet connection.

Besides that, the application also has drawbacks including 1) the application does not support automatic material updates from lecturers to students so that if there are new practicum activities, it will have to develop the application from scratch; 2) Menu of discussion

forum has not displayed notification if you get new message.

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RELEVANCE OF THOUGHT AHMAD DAHLAN IN THE EDUCATION

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Abstract

Educational Objectives By Ahmad Dahlan, Islamic education should be aimed at forming a human Muslim noble character, learned in religion, Broad view and understand the problems of the earth, and willing to fight for the betterment of society. The purpose of education is the reform of the educational objectives are conflicting at the time that education in schools and education models Netherlands.

Ahmad Dahlan is the type of action that is in place when enough left many charitable efforts not writing. Note the long history of struggle Ahmad Dahlan in Developing and promoting backwardness of Muslims, was very persistent fight Ideals magnitude.

Relevance Ahmad Dahlan thinking about the current education curriculum found or educational materials should include: Moral education, morality is an attempt to instill good character man based on the Qur'an and Sunnah, Education Individuals, such as efforts to raise awareness of the Individual whole sustainable development between the mental and the idea, between faith and intellect, as well as between the world and the hereafter. Education community is an effort to foster a willingness and desire Lake community.

Keywords: Ahmad Dahlan, Education, Schools, and Relevance

1. Introduction

Muhammadiyah organization's place as a charity and implement ideas updates Ahmad Dahlan is very attracted the attention of observers of developments in Islamic world. Scholars and authors from both East and West are very focused attention to the Muhammadiyah. The name of Ahmad Dahlan more famous in the world. In the forefront of the struggle for independence of the Republic of Indonesia, the role and the contribution him is very big. Dahlan with all ideas of renewal he teaches is a very large stock for national revival in the early 20th century.

Ahmad Dahlan described from many disciplines kiai i.e. KH. Muhammad Saleh in the fields of jurisprudence; from KH. Muhsin Nahwu science-Sharaf (grammar); from KH. Raden Dahlan astronomy Science (astronomy); of Kiai Mahfud and Sheikh KH, Hadith science; Sayid Amin and Shaykh Bakri Satock science of the Holy Qur'an, as well as from Shaykh Hasan in the field of medicine and poison animals.

At the age of 15, he went to Hajj in Makkah and stayed for five years. In this period, Ahmad Dahlan began interacting with the thoughts of reformers in Islam, such as Muhammad Abduh, Rashid Al-Afghani, Ridha and Ibn Taymiyyah. When returned to his community of the year

1888, it changed its name to Ahmad Dahlan. In 1903, he traveled back to Mecca and settled for two years. During this time, he had learned to Sheikh Ahmad Khatib who also teachers from the founder of NU, KH. Hasyim Asy'ari. In 1912, he founded the Muhammadiyah in Kauman village, Yogyakarta.

Since human history born of natural coloring routine mortality, education is an "important things" in the social community. (Barizi, 2005: v). Ahmad Dahlan is the type of man of action that is in place when enough left many charitable efforts not writing. Note the long history of the struggle of Ahmad Dahlan in developing and promoting backwardness of Muslims, was very persistent struggle ambition level. And he said the fight was going to work while supported by two component main underlying, namely education and workshop. Hence Ahmad Dahlan so eager to make a breakthrough in the reform of the two elements. For educational institutions are still regarded as the most channel strategis in convey ideals change. (Heri Sucipto: 112).

With his efforts in the field of education, he can be regarded as a "model" of the rise of a generation that is "central point" of a movement that rose to the challenge faced by the Muslims in the form of backwardness in education

systems and Islamic stagnation understand. In contrast to the national figures of his day, which is more concerned with political and economic issues, Ahmad Dahlan devote themselves entirely in the field of education.

Adam is starting a new life in the universe is always equipped to understand the sense of it and then find out the concept as a matter of life. There are a number of internal factors and external factors, which encourage why Ahmad Dahlan established organization (Sairin, ttt: 24). Internal factor religious life is not in accordance with the Holy Qur'an and the Hadith, because the prevalence of imitation, innovation and *churafat* (TB), which led to Islam being frozen. The situation of the Indonesian people and the Muslims who live in poverty, ignorance, backwardness and conservatism, not the realization of the spirit of brotherhood in Islamic and there is no Islamic organization strong. Islamic educational institutions can not fulfill their functions properly, and the system of schools that are very ancient. The influence and encouragement, the reform movement in the Islamic world. The external factors include: the availability of Dutch colonialism in Indonesian, activities and progress achieved by the Christian and Catholic in Indonesian, the attitude of the majority of Indonesian intellectuals who view Islam as a religion that is outdated, there is a plan.

The goal of education according to Ahmad Dahlan, Islamic education should be aimed at forming a human Muslim noble character, learned in religion, comprehensive view and understanding of the problem of the earth, and willing to fight for the betterment of society. The purpose of education is the reform of the educational objectives are conflicting at the time the boarding school education and typical school education in Netherlands.

On the one hand educational boarding primary objective is to create a virtuous people and learn about Islam. On the other hand, education is a Dutch type of secular education in which religion is not taught at all. Seeing the imbalance Ahmad Dahlan believes that the purpose of education is to produce a broad range of individuals who complete master of science and science in general, as well as material and spiritual worlds. Ahmad Dahlan For both of these (religious-public, material-spiritual world and the hereafter) is a matter that can not be separated from each other. This is the reason why Ahmad Dahlan teach religious education and science as well as in public school teaching.

Educational materials Ahmad Dahlan found curricula or educational materials should include: Moral education, morality is an attempt to instill

good character man based on the Qur'an and Sunnah. Education of individuals, namely an effort to raise awareness of a whole individual sustainable development between the mental and the idea, between faith and intellect as well as the world and the hereafter. Education community is an effort to foster a willingness and desire to live in a society.

Teaching Methods, there are two systems of education that developed in Indonesia, Boarding school and Western education. View Ahmad Dahlan, there are fundamental problems associated with educational institutions in the Muslim community, especially educational institutions boarding. According to Syamsul Nizar, in his *Philosophy of Islamic Education*, explains that the problem is related to the process of teaching and learning, curriculum, and educational materials. From the reality of education, Ahmad Dahlan offers a method of synthesis of modern educational methods with Western methods of education boarding school. From this it appears that the institution was founded by Ahmad Dahlan different educational institutions run by indigenous peoples today. Learning methods developed Ahmad Dahlan contextual patterned through a process of dialogue and awareness.

A classic example is when he describes *al-Ma'un* to *santri* repeatedly until the students realize that the letter suggested that we pay attention to and help the poor, and to practice it. Educators of instilling confidence in the understanding of Islamic education system and teaching.

Implementation of this system of education was found to be not worth the price of progress, the people of Indonesia in general and Muslims in Indonesia. Of the opinion that teachers play an important role in the school in order to produce children as students who aspired to Muhammadiyah. What is important for the teacher is to understand and appreciate and participate in the work of. By understanding and practicing and participating in teaching, teachers can carry out its functions in accordance with what is aspired Muhammadiyah.

Students of trying to restore the teachings of Islam at its source, namely the Qur'an and the Hadith. Research aims to expand and enhance the education of Islam, so that people realize the true Islam. To achieve that goal, Muhammadiyah established schools throughout Indonesia. In the world of education and the teaching of educational reform has entered into religion. Modernization of the education system is run by changing the system of boarding school with modern education in accordance with the

demands and requirements of Islamic era. Learning given in public schools, both public and private. Muhammadiyah was founded schools both distinctive religion and of a general nature. The new method adopted by the school to encourage understanding of the Qur'an and the Hadith independently by the students themselves. Q & A and discussion of the meaning of certain verses and also organized class. "The boys thought freedom (children are given freedom of thought)," a statement quoted by the speaker of Congress in 1925, described the atmosphere both schools of first (Nizar, 2002: 112). With an education system that is run Muhammadiyah, the Indonesian people are educated to become the nation's personal qualities intact, not split into private or public knowledge knowledgeable religion.

2. Ahmad Dahlan Education The Latest

The idea of creative ideas and Ahmad Dahlan in the field of education to be one of the keys to success for the development of. Kuntowijoyo underlines the success of Ahmad Dahlan in developing of it related to two things. First, the cultural movement in the field of education are at the forefront. Second, social movements, economic as well as cultural position forefront. With the new education system through the introduction of a merger of traditional education and secular education to modify the methodology of modern education system.

According to Mitsuo Nakamura (1993), of obtaining the education that a double. First, of the national strengthen awareness through the teachings of Islamic. Second, through the schools of Islamic reform can Muhammadiyah idea widespread. Third, Muhammadiyah has also contributed to the increase in modern Science praktis. So question what exactly the system used by the institution Muhammadiyah Education've missed. If we look at the education system of that is until now more inclined to a liberal system on the one hand and on the other side of conservative. Liberal system in the management of the school system and the conservative system of teaching. As we know that the education system more liberal solve problems with education efforts "Cosmetic Reform" (Popular Education) emphasizes the new facility, modern equipment and efforts school to improve student-teacher ratio. The education system is a conservative educational system like (sorogan and publishing) put existence children in absolute ignorance and teachers in the absolute truth that students are not allowed to think, only

to receive a lesson from the teacher and this is a well established which must be maintained. (Adi Asmara, 2010: 629-630)

Education of thinking was born from the idea of education promoted by Ahmad Dahlan then. Heri Sucipto evaluate educational orientation that built Ahmad Dahlan is the modern education system with classical system. The Dutch education system mixes with the traditional educational system integrally. At the time, what it does is something still quite rare carried out by educational Islamic institutions. Ahmad Dahlan is known as a reformist movement that accentuates amaliah. Additionally Ahmad Dahlan Kauman is known as a driving force of the Islamic struggle formidable, visionary far ahead, and featuring the work of pioneering. (Haedar Natsir: 117)

Haedar Natsir said that Ahmad Dahlan was human-charity, because in his life he preferred the works of theorizing. It is known as the practitioner directly in education. He did more than theorize. Proven track during his difficult work of his writings, but that shown Ahmad Dahlan is doing and practicing direct his thoughts are so far we can see and feeling. Apart in the religious field, Idea reform also poured in to spearhead the establishment of a modern Islamic school. In fact, since 1911 Dahlan has founded a school named Elementary School Diniyah Islamiyah. (Adaby entitled, 2000: 13).

School as a pilot extension of "school" developed Ahmad Dahlan informally in giving lessons containing Islamic religious sciences and general knowledge to their students than in the King's School (Kweek School) and School of Civil Service (OSVIA) at his home. This is the "School of" first, a religious school, which is held in a mosque as usual activities Muslims at that time, but located in a room measuring 2.5 x 6 m in the house of Ahmad Dahlan.

The school is using the table and the board, who teaches religion and general knowledge in new ways evil of Western education. (Haedar Natsir, 2010: 121).

Thus managed to close two of the people, the Indonesian intellectuals who get education with the Western model that the rest get only religious subjects, the two groups that have started separate and detached. (Amin Rais et al, 1985: 15).

Muhammadiyah has made reform of religious education by modernizing the education system, change the system and the boarding lodge with modern education system that is in accordance with the requirements of the times. Of establishing schools that special religion but of a general nature, from kindergarten to college.

For Slamet Abdullah, which distinguishes between socialist with college of other religious is a serious concern for the problems of the education agency.

Ahmad Dahlan are reformers in education inspired by the ideas of Muhammad Abduh of Egypt. According to him, one of the backwardness of Muslims Indonesia due to improper mechanism and an education system that is used by Islamic educational institutions that are unable to produce the caliphs. The education system is driven only by rote, poor criticism and poor skill makes Muslims stagnant and backward. (Slamet Abdullah, MuslichKS, 2010: 90-91)

The typical captures more, but less successfully understand the ethos of reform when Dahlan established the modern school. Similarly, various other charitable efforts that include using the system and organizational management in practice the teachings of Islam. If we want to capture the narrative effort, it is important to look at the conclusions Abdul Munir Mulkan that state as pragmatism understanding and practice of Islam and relative or inclusive (Abdul Munir Mulkan, 2000: 90).

The potential for the movement to fulfill the function as a torch lightening people with considerable number of institutions that are relatively stable and well organized, in particular in the field of education. Similarly, the human resources are featured in the system of the organization with adequate facilities.

Unfortunately, opportunities that have not been taken when the movement trapped in routine bureaucratic rigidity and charitable efforts. Compared with the past, Ahmad Dahlan can take advantage of existing opportunities of various parties, both in their participation in the organization joined Budi Utomo and when the Dutch government a little soft on the legality of Islamic organizations at the time. He used it to establish the beginning of the idea of education reform.

Relevance minds KH. Ahmad Dahlan on the current education curriculum found or educational materials should include: moral education, morality is an attempt to instill good character man based on the Holy Qur'an and Sunnah. Education of individuals, namely an effort to raise awareness of a whole individual sustainable development between the mental and the idea, between faith and intellect as well as the world and the hereafter. Education community is an effort to foster a willingness and desire to live in a society.

The above description is part of the Islamic concept of man. With regard to the issue of

education, it can briefly be said that the educational process must be able to produce graduates who: have the personality of a strong, balanced between the physical and spiritual excellences, general knowledge and religious knowledge, worldly and hereafter, have a social life of dedication, moral which is based on the Holy Qur'an and Sunnah.

3. Conclusion

Relevance Ahmad Dahlan thinking about the current education curriculum found or educational materials should include: Moral education, morality is an attempt to instill good character man based on the Holy Qur'an and Sunnah, individual education, as an effort to raise awareness of the individual whole sustainable development between the mental and the idea, between faith and intellect as well as the world and the hereafter. Education community is an effort to foster a willingness and desire to live in a society.

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EVALUATION OF LEARNING MUSIC FOR CHILDREN WITH AUTISM BASED ON THE AUTISM SCHOOL TEACHER'S PERCEPTION

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Abstract

Learning music is an effort in education to improve the quality of one's life. When it is connected to its function, learning music for autistic children can be associated with therapeutic activity. However, these efforts must be directed to one of which is to conduct the evaluation. This study applies Goal Free evaluation models with a descriptive quantitative approach. The population of this research is Extraordinary School teachers in Yogyakarta, with three extraordinary schools for children with Autism as the samples. The data were obtained through open and closed questionnaires and analyzed by using descriptive statistics. The results showed that the purpose of learning music in schools specified for children with autism was achieved well evidenced by the total score of the teacher's perception on learning objectives that are in good category or by 80,83% supported by a statement regarding music learning that music can improve the concentration and motoric movement, reduce stress as a result of not being able to communicate and music therapy affects the development of children with autism. The side positive influence aside the goals of music therapy is that it can create a fun atmosphere as well as to install the concept of vocabulary to the children and the side negative effects of music is that it can cause dependence on certain music and children can lead to tantrums. Obstacles in learning music for children with autism can be caused by internal factors of the children themselves or external factors.

Keywords: evaluation, perception, learning music for autistic children

1. Introduction

Music is one of the objects of perception that is often used as a medium of learning to develop student creativity in school. The media is not only applicable to "general" students, but also for students with special needs, such as Autism. Conceptually, music can be used in two forms but still as a whole that is therapy and learning (Eren, 2014: 2594). For Autism students, music is used as a medium of therapy to cure abnormalities/ disorders experienced. In this study, the authors are interested to examine the application of music as a medium of therapy applied in learning music in special schools for Autism, starting with first research the perception that developed among educators for children with autism. As a response, perception determines the response that will appear to a particular object or event.

Perception itself is related to the process of interpreting an opinion or idea. The process is related to the stimulus, whether it comes from within and outside of the individual self and the sense or receptor device. Perception is the organizing or interpretation of the stimulus that has been perceived to be a meaningful object, as

well as a unified response in the individual (Walgito, 2010: 6). Therefore, the response that is implemented into action, is determined by the perception of each individual. Extraordinary teacher perceptions related to music as a medium of therapy for children with autism, determine their ways to address the psychological needs of children with autism.

In the process of perception, individuals often project their experiences. Therefore the object of perception will be interpreted according to individual experience. Slameto (2010: 25) states that through perception, humans continue to make contact with the environment. Thus, objects in the environment have a distinctive meaning for the individual. Perception covers a wide variety of things, including music. The music in this article concentrates on learning music that is specifically performed on autistic children, or close to the activities of music therapy.

Campbell (2010, 45) describes the influence of music on various diseases, whether physical or psychological, for example is the positive effect of music for people with schizophrenia, autism, stroke and others. With the belief that music is already present in a

person, Montello (2002, 79) implements the soul by using music as a medium in psychotherapy. It can help overcome physical ailments and abnormalities in the patient.

Several studies have shown that musical intervention given through an experiment can have a positive impact on people with autism. Music therapy has a role in restoring temporal disruptions in adults diagnosed with a substance use disorder (Mössler & Schmid, 2016); Thoroughness in accepting duties (Fong & Lee, 2012); Enhance creativity and ability to take initiative (Holck & Geretsegger, 2016); Better perception / response development (Based & Support, 2010); And better motor awareness and interpersonal skills.

Djohan (2009: 235) argues that there are several musical reasons that need to be presented in education, among others: music can provide assistance in improving student achievement; Music combines behavior and other thinking skills; Music provides the way for images and creations, contributes to self-expression and creativity; Singing, listening and creating, is a fun and rewarding activity. In addition, music enhances sensitivity, music develops perception of cognition and motor, music creates teamwork and unity, music stimulates creativity as well as individuality, helps music improve discipline and commitment, music is a source of excitement and success, music as therapy for humans, and music develops Intelligence.

Learning music is done for children with autism are not intended to form a child to be a professional musician. Moreover, learning music for children with autism has a function as a therapy to improve the pattern of life of autistic children who are not sensitive to the environment around them. Kern, Rivera, Chandler, & Humpal, (2013) says that ASD has a new level of service, and is a trend to serve clients in home and Community settings. Music learning for autistic children is intended to reduce the psychological burden of children due to not being able to communicate with others. Therapy is done by using music media in a structured and consistent. Danuatmaja (2003: 125) says that the goal of music therapy is to develop and improve physical ability, train perceptual abilities, develop and actualize their potential, develop emotional skills, and develop socialization skills. In addition, music also acts as a motivator as revealed Lee (Fong & Lee, 2012: 808) that music can be used as a motivator and alternative learning methods for children to improve certain skills if non-musical methods have no effect.

Through experience and appreciation of musical activities, music can develop the

sensitivity of children with autism to their environment. The process can be done with a variety of simple musical activities, such as playing a musical instrument, moving to the rhythm of music, creating music or singing activities. This is corroborated by Baron-Cohen (2001) which states that for some children with special needs, singing is the easiest way to communicate. Singing activities performed for children with autism as a facility to communicate, which regulates the verbal communication skills that have been owned autistic children.

Learning music for autistic children aims to incite a child's willingness to express and channel his feelings more purposefully and freely, so that the psychological pressure they experience by not being able to express their feelings can be reduced. It can restore their emotional development which will also impact physical recovery, cognitive and social behavior. Judging from the various benefits that can be obtained, music is an excellent medium for children with autism to be implemented in school learning in the form of therapy.

The music therapy exercises commonly used in Indonesia and implicated in music learning for children with autism (Danuatmaja, 2003) include: fine motor and rough exercise where music therapy aims to improve the ability of children to move the body smooth and rough; Exercise perceptual ability to improve the child's perception of objects or events around him; Concentration exercise by walking following the floor pattern according to the given musical rhythm; Practice singing songs that are easy to remember and simple; Atihan play a simple musical instrument to follow the rhythm and play the tone well; Performing movements and songs that can train the child to perform certain movements according to musical rhythm and improvisation exercises by following the movement of objects such as animals or vehicles.

Compared with general education as the object of research, the study of the effect of music on autistic children has a special area in view of the objectives. Learning music for children with autism is more directed to the side of therapy. Prawitasari (2011: 105) argues that music therapy refers more to musical concepts with certain forms, conventions, theories and musical instruments with the support of scientific methods. The development of research makes music that was not so popular for therapy became increasingly known. Music as a therapy for children with autism needs further attention to be studied. Music therapy itself can be a process of teaching music either with the term music

therapy or just include music as a lesson outside the learning / extracurricular hours (Djohan, 2006: 64).

Learning music that is applied to extraordinary schools refers more to the process of musical activities aimed at training the emotions of autistic children and helping children to get out to social reality. These activities are planned and structured and consistent. Starting from simple things, children are also trained in concentration and taught basic things related to their cognitive and physical. Through music learning, will create a comfortable learning atmosphere and fun so that children can pay attention to their subject matter. In addition, music can also be a cure for children who are experiencing tantrums or rage because of psychological distress.

Furthermore, there will be a problem when there are extraordinary educational institutions special autism that have not implemented learning music well or just simply random, or even apply the learning without realizing the influence that should be achieved by the students. The more positive the perception of teachers to learn music for children with autism, the better the influence of learning music for children with autism. Therefore, this study intends to evaluate the learning activities of music for Autistic children based on the perception of extraordinary teachers who handle autistic children about the influence of music for them, especially the side effects beyond the purpose of learning music for Autistic children and the obstacles that arise in the implementation of learning.

2. Method

This study uses Goal Free evaluation model. The Goal Free Evaluation Model is an evaluation model developed by Micheal Scriven (1972). Evaluators in this model have no specific knowledge or reference of objectives and pre-defined outcome objectives. According to Scriven the model not only wants to see the true influence of a program, and its emphasis on assessing the effect of the program regardless of predetermined criteria. Evaluators try to observe and measure all outcomes, effects and impacts, expected or not, without leading to program objectives. The actual effect of the program may be different or more or wider than the stated objectives of the program.

The goal-free evaluation model effectively reduces bias and improves objectivity. This model is held for a variety of unanticipated matters from programs that might overlook the evaluation model of the objectives (Fitzpatrick,

Sanders, & Worthen, 2004), and focus on behavioral change in individuals as a result of program implementation, see both expected and expected side effects Which is not expected, and compare it with the circumstances before the program is implemented. In other words the free goal evaluation model focuses on the actual results of a program or activity, not just the identified goals.

This study uses a quantitative descriptive approach, which is intended not to propose a hypothesis but describes and explains the problem as it is with the support of tables and graphs (Creswell, 2012). The study was conducted at a special autism school in Sleman District, which performed music lessons and was conducted during April - May 2014.

The population in this study is all teachers of Special School for Special Autism In Sleman District. The respondents as the sample in this study were the special Autism class teachers who taught in three Autism Schools of Sleman Regency which amounted to 32 people. Sampling technique used is the quota sampling that is by determining the sample of the population that has certain characteristics to the desired amount (Sugiyono, 2013). It is implemented with minimum sampling rules of 30 subjects (Emzir, 2009).

Researchers use open and closed questionnaires as data gathering instruments. The data obtained is ordinal data processed using SPSS program. Closed questionnaire is prepared using five alternative answers, which are described in both positive and negative statements, ie strongly agree, agree, hesitate, disagree, and strongly disagree to get a broader gradation of the answer (Arikunto, 1999). In addition to closed questionnaires, researchers also used an open questionnaire that discusses obstacles, and teacher advice in music learning for autistic children.

To test the validity of the instrument used expert's judgment and reliability using Alfa Cronbach (0.871). To analyze the data, researchers used descriptive statistical techniques by describing or describing the data as it is without intending to make general conclusions. Teachers are said to agree if the total score is greater than the Theoretic Mean while the teacher is said to disagree if the total score is smaller than the Theoretic Mean.

3. Results

Based on the results of the calculation and analysis, it can be seen that the respondents have a positive perception of the influence of music

learning, as evidenced by the Mean Indicator of 12.1 higher than the Ideal Mean of 9. Positive perceptions can also be seen from the percentage of respondents' score of 93.75 %. In addition, teachers' perceptions are in the very good category with a percentage of 72%.

Tabel 1. Frequency categories learning objectives

No.	Category	Interval	Percentage
1.	Very Good	$12 \leq x \leq 15$	72%
2.	Good	$9 \leq x \leq 12$	28%
3.	Pretty Good	$6 \leq x \leq 9$	0
4.	Less Good	$3 \leq x \leq 6$	0

The success criteria used are:

1. If the total score of teachers is more than or equal to 85%, then learning music for children with autism is categorized very well.
2. If the teacher's total score is between 75% - 84%, then music learning for autistic children is categorized well.
3. If the total teacher scores below 75%, then music learning for children with autism is categorized less well.

Based on these criteria, then the result of the evaluation of music learning for Autistic children included in the "Good" category that is equal to 80.83%.

In addition to using a closed questionnaire, researchers also used an open questionnaire that discusses the process of learning music for autistic children based on their teaching experience as a teacher. The following analysis of the question: What are the constraints / problems found in music learning for children with autism?

The majority of respondents said that children with autism have different interests with each other because every child with autism has a different character. Even some autistic children sometimes close their ears when listening to the kind of music they do not like. However, other autistic children just too enjoy the music so angry if the teacher finished playing music. Such autistic child attitude can disrupt the process of learning music, let alone to cause tantrums. However, some teachers argue that mood may affect the autistic child's interest in music.

In addition, another obstacle faced by teachers is the lack of autistic children's ability to concentrate because children with autism easily distracted. For example, sometimes an autistic child utters a sentence or a word unrelated to a

song while singing. Limitations of intelligence, the ability to understand instruction and imitation skills, the tendency of autistic children to be in their own world, and the state of autistic children who have not been able to speak / communicate verbally can also be an obstacle in the learning process.

Technically, teachers argue that musical instruments can be a constraint, whereas autistic children simply use simple instruments that are easily obtained from the surrounding environment. Limitations of methods and guidelines on the process of learning music is good and effective also become one of the obstacles, in addition to not all teachers can play a musical instrument for the learning process of music for children with autism.

4. Discussion

Positive perceptions between the components of learning music show that the purpose of learning music is achieved well, which means music has a positive effect on children with autism. Extraordinary teacher perceptions related to music as a medium of therapy for autistic children determine their ways to handle the psychological needs of children with autism maximally (Kern, Rivera, Chandler, & Humpal, 2013). However, there are some statements in a closed-ended questionnaire that get hesitant answers that is: children learn faster with music media than with other media, singing is a way of communication that is easier to do than talking for children with autism and music to make children more careful in doing task.

Based on the results of interviews, it can be seen that the results are influenced by the characteristics of each child who is also different autism. In some cases, there are still children with autism who have not been able to respond to music because they are still in their own world. So it is with singing. Some autistic children love to hum, but not all speak verbally. In an open questionnaire, respondents expressed their opinions about the obstacles in learning music for autistic children that can be caused by internal factors of the children themselves (such as lack of concentration, intelligence and lack of verbal or motor skills) or influenced outside factors (teachers and facilities), where teachers The learning should be the music therapist who specially trained in music, nonverbal communication and therapeutic techniques in order to elicit an emotional response from the children (Graham, 2011). The material needed by children with autism is a simple material and in accordance with the characteristics of children

with autism. The appropriate method according to the respondents is the method of repetition / drill so that children with autism who have low ability to develop themselves gradually. In general, respondents suggested various methods and materials that they deem necessary for autistic children.

Agreeing with some research on the influence of music for autistic children (Subagyo, 2012; Fong and Lee, 2012; Whipple, 2004), this study shows similar results that music has a positive effect on their daily lives. This can be seen from their positive responses to music based on teachers' perceptions. Respondents say that music is one part of the world of children, not the exception of children with autism. In some cases, music can calm a child with autism when experiencing tantrums. The autistic child can respond to the music played by following the tone and performing the motion. Music can make a child enjoy and calm. In other words, music affects the emotional response of the autistic children they embody in speech, humming and motion. In other words, this study supports Graham's (2011) research on the effectiveness of music as a treatment that affects the client's emotions. However, since autistic children have different characteristics, educators are expected to perform individualized music learning processes as suggested because autistic children have different characteristics that have different needs.

5. Conclusion

From this study it can be concluded that positive perceptions of all special Autism Special School teachers can prove that music has an effect on autistic children, seen from a higher ranking than the theoretical Mean. The results show that the purpose of learning music at school is the result of the teacher's perception on the objective that is in good category or by 75% supported by a statement about music learning that music can improve the concentration and motoric movement, reduce stress as a result of not being able to communicate and music therapy affects the development of children with autism. The side positive influence beyond the goals of music therapy is that it can create the concept of vocabulary to the children and the side negative effects of music is that it can cause dependence on certain music and children can lead to tantrums. Obstacles in learning music for children with autism can be caused by internal factors of the children themselves or external factors.

This study has some drawbacks, ie limited sampling. In addition, the resulting data will be more profound if the researcher uses a qualitative approach with indepth interview. From the results of the study is expected every educator, especially each extraordinary special teacher Autism as one component of music learning continues to develop music learning creatively and innovatively. In addition, for further research, it is expected that the results of this evaluation can be used as a basis for the making of appropriate music learning method for autistic children to be able to learn music and feel the influence of music in their lives.

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A STUDY OF ENVIRONMENTAL ATTITUDE AND ENVIRONMENTAL CONCERN OF HIGH SCHOOL STUDENTS IN SURAKARTA

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Abstract

Many cases of environmental issues and problems are mainly caused by environmentally in friendly attitude and concern. Hence, strengthening environmental attitude and concern is critically needed in improving the quality of the environment. Better environmental attitude and concern has become one of the main objectives of environmental education. The main goal of environmental education has a good environmental attitude and concern. These two constructs are interlinked with varieties results and depend on condition and terms. Here in this research, linkage between these two construct are scrutinized. This research aims to examine linkage between attitude and concern in high school student in Surakarta. This type of research is quantitative research. This research use sampling random technique. Environmental literacy instrument was applied towards 117 student participant from 3 prominent schools in Surakarta. Correlation analysis using the SPSS was used to examine linkage between student's attitude and concern. According to the result of statistical correlation, the x value (0,205) is greater than the y value (0,165). Hence, it can be concluded that there is a correlation between x and y. It means that attitude is positively correlated with concern. Based on these results, it is concluded that the most effective factor contributing to solving environmental problems is environmental education through the improvement of attitudes and awareness of the environment with a positive effect on sustainable development education. Perception towards five aspects of attitude namely anti anthropocentrism, anti exemptionalism, balance of nature, limit to grow and eco-crises has influenced perception and behavior that build the construct of concern.

Keywords: *Environmental attitude and concern*

1. Introduction

Environmental problems have become a troubling global issue. They are resulted from lack of humans' concerns in environmental preservation; humans have less optimum thought and efforts to repair and stop environmental damage [1]. Therefore, some countries' top priority to attempt to raise societies' concerns by taking preventive measures towards declining environmental conditions through environmental education by improving towards attitudes and concerns about environment [2].

Attitude is defined as humans' point of view on the environmental conditions which emerges due to motivation and real evidences of humans' treatment towards environment which later influence environment-friendly attitudes [3]. The aspects of attitudes include environmental concerns and motivation to preserve environment [4]. Environmental concerns bring up individual perspective of either pro or counter, advantageous or disadvantageous, towards certain aspects of

environment or things related to environment [5]. Dunlap (2000) developed New Ecological Paradigm (NEP) Scale to measure humans' concerns about living environment.

NEP Scale was designed to identify five core components of individuals' environmental concerns, or so called dimensions of NEP [6] involving: 1) limit to growth, which gives a perspective to individuals on the existence of a limitation to grow in terms of population accommodation and human exploitation, 2) anti-anthropocentrism, which gives a perspective on pro-environmental attitudes if ego as humans can be put aside, 3) balance of nature, which gives a perspective on vulnerable natural balance and damage, as well as humans' contributions in nature damage, 4) anti-exemptionalism, which gives a perspective on rejection to an idea that humans are creatures who should be responsible for their environment, 5) eco-crisis, which gives a perspective on ecological crisis and nature damage as impacts of environmentally unfriendly acts.

Table 1. NEP Instrument

Number	Statement
1	We are approaching the limit of the number of people the earth can support.
2	Humans have the right to modify the natural environment to suit their needs.
3	When humans interfere with nature it often produces disastrous consequences.
4	Human ingenuity will ensure that we do NOT make the earth unlivable.
5	Humans are severely abusing the environment.
6	The earth has plenty of natural resources if we just learn how to develop them.
7	Plants and animals have as much right as humans to exist.
8	The balance of nature is strong enough to cope with the impacts of modern industrial nations.
9	Despite our special abilities humans are still subject to the laws of nature.
10	The so-called 'ecological crisis' facing humankind has been greatly exaggerated
11	The earth is like a spaceship with very limited room and resources
12	Humans were meant to rule over the rest of nature.
13	The balance of nature is very delicate and easily upset.
14	Humans will eventually learn enough about how nature works to be able to control it.
15	If things continue on their present course, we will soon experience a major ecological catastrophe

Concern is, by definition, a worry over several current environmental problems along with attempts to actively participate in actions related to environmental issues and to solve problems [8]. The aspects of attitudes cover: response on environmental problem through

lifestyle, one of which is by purchasing environmentally friendly products, attempts to preserve resources, environmental law enforcement, encouragement of environmentally friendly practices, and supports for environmentally friendly policies [7].

Table 2. Environmental concern Instrument

Number	Statement
1	Having a car is part of a good lifestyle
2	Restriction of chemical fertilizers can loss farmers comodity
3	If my work field poses environmental problems, I better look for another job alternatives
4	In the shopping daily, we can use the plastic for the containers of groceries
5	I will be friendly environment if others do it too
6	Human activity does not have a significant impact on global temperature change
7	I prefer to hand over the task of in print than in the form of soft file
8	I will use the recycle paper despite the costs that higher
9	Limitations on the availability of natural resources is a concept that is not real
10	Technology will always provide the right solution to the problem of the availability of resources
11	The loss of one species will not disturb the balance of the ecosystem as a whole
12	Increasing the abundance of polar ice caps are melting because of the thinning of the ozone layer is a common phenomenon
13	The Government should bring in foreign investors to manipulate the natural resources of Indonesia to boost the country's foreign exchange
14	The industry requires modern equipment to process residual smoke production despite having to spend the cost of an expensive
15	In the area of dense population , need for water installation processing for drinking water even though the cost is expensive

It is in accordance with commitments of Agenda 21 which seek to realize Education for Sustainable Development [9] Education for Sustainable Development (EfSD) was the

outcome of Agenda 21 in the 1992 United Nations Conference on Environment and Development held in Brazil's Rio De Janeiro. It has been the goal of education to strengthen

sustainable development-oriented environmental literacy [10]. Similarly, Hungerford & Volk (1990) assume that environmental literacy has specific characteristics in learning which are important to implement in class to topics related to environment.

With regard to EfSD, environmental education serves a purpose of creating students' environmental literacy. It confirms the statement of Lewinshon *et al* (2014) that environmental science gives a great contribution to solve environmental problems; however, due to the

lack of good environmental literacy, in practice, the implementation of the science is often limited. The fact is strengthened by the argument of Lugg & Hodgson (2009) that upper secondary education gives small contribution to environmental actions in association with environmental problems since the existing curriculum has not been designed progressively to adjust to the purpose of *EfSD*.

In reference to the aforementioned problems, a research on environmental attitudes and concerns in Surakarta is required.

Table 3. Attitude and Concern Environmental Aspect

Number	Dimension	Aspect
1	<i>(Attitude)</i> (Dunlap, Liere, Mertig, & Jones, 2000) (Erdogan & Marcinkowski, 2015) (Ajzen I. , 2001)	<p>a. Environmental sensitivity</p> <ul style="list-style-type: none"> - Attitude attention and environmental friendly - Participate actively in settlement directing and solving of environmental problems - Apply attitude attention in daily lifestyle - implementation environmental regulation <p>b. Motivation and intention to act in participating actively towards environmental protection and improvement</p> <ul style="list-style-type: none"> - participate actively towards environment improvement and protection - confidence to make decisions and assessing of environmental problem
2	<i>Concern</i> (Hesham & Dajeh, 2011) (McBride, Brewer, Berkowitz, & Borrie, 2013)	<p>a. Response towards environmental problem</p> <p>describe and present the facts about environmental problems</p> <p>describe the factors that cause or contribute to the environmental problems</p> <p>being able to distinguish the sorts of kinds of environmental problems</p>

2. Method

The present research belongs to quantitative research with correlational approach. It was conducted from January to March 2017 in three senior high schools in Surakarta, namely SMA N 1 Surakarta, SMA N 4 Surakarta, and SMA N 5 Surakarta. The population includes Grade 11 and Grade 12 students (one class in each school was selected) with total number of 117 students. Samples were taken using Random Sampling technique. Data sources include primary and secondary data. The former were directly obtained from respondents by using questionnaires in data collection, while the latter were obtained through observation and documentation.

The dependent variable is represented by environmental attitudes (X), while the independent variable includes environmental concerns. The 5-point Likert scale was employed to measure parameters of such variables as environmental attitudes and environmental concerns. Data were analyzed using inferential statistics with bivariate correlation.

3. Results

Considering the condition, it is important to carry out a research on the relationship between environmental attitudes and environmental concerns in senior high schools in Surakarta.

Number	Statement	Very Agree	Agree	Undecided	Disagree	Very Disagree
1	We are approaching the limit of the number of people the earth can support.	94.83	5.17	0.00	0.00	0.00
2	Humans have the right to modify the natural environment to suit their needs.	1.15	1.72	4.60	33.33	59.20
3	When humans interfere with nature it often produces disastrous consequences.	56.32	38.51	2.30	2.87	0.00
4	Human ingenuity will ensure that we do NOT make the earth unlivable.	54.60	29.89	2.87	5.75	6.90
5	Humans are severely abusing the environment.	83.33	16.67	0.00	0.00	0.00
6	The earth has plenty of natural resources if we just learn how to develop them.	45.98	20.11	1.15	25.86	6.90
7	Plants and animals have as much right as humans to exist.	78.74	16.09	1.72	0.00	3.45
8	The balance of nature is strong enough to cope with the impacts of modern industrial nations.	69.54	22.41	4.60	1.72	1.72
9	Despite our special abilities humans are still subject to the laws of nature.	65.52	18.97	0.00	10.34	5.17
10	The so-called 'ecological crisis' facing humankind has been greatly exaggerated	0.00	0.00	0.00	72.41	27.59
11	The earth is like a spaceship with very limited room and resources	86.78	13.22	0.00	0.00	0.00
12	Humans were meant to rule over the rest of nature.	39.66	43.10	0.00	11.49	22.99
13	The balance of nature is very delicate and easily upset.	91.38	8.62	0.00	0.00	0.00
14	Humans will eventually learn enough about how nature works to be able to control it.	50.00	35.63	1.72	6.90	5.75
15	If things continue on their present course, we will soon experience a major ecological catastrophe	90.80	9.20	0.00	0.00	0.00
SD		30.11	13.28	1.67	19.66	16.18
Average		16.17				

Figure 1. Percentage of Environmental Attitude Statement

From this figure can describe that

1. Respondent statement use Likert Scale, and format of range from 1 (Very disagree) to 5 (Very agree)
2. The number of positively statement are 8 (1,3,5,7,9,11,13,15).
3. The number of negatively statement are 8 (2,4,6,8,10,12,14)
4. The majority of students statement disagree from this instrument is like : 1) Human

ingenuity will ensure that we do NOT make the earth unlivable.. (54.60%), 2) The balance of nature is strong enough to cope with the impacts of modern industrial nations. (69.54%), 3) The so-called 'ecological crisis' facing humankind has been greatly exaggerated (65.52%), 4) Humans were meant to rule over the rest of nature (43.10%) 5) Humans will eventually learn enough

about how nature works to be able to control it (50.00%)
From this figure shows that standart deviation of environmental attitude is 16.17%. This indicates

that student of senior high school in Surakarta have positive attitude to protecting and improvement environment.

Number	Statement	Very Concern	Concern	Undecided	Little concern	Not at all concern
1	Having a car is part of a good lifestyle	16.67	18.39	0.00	16.67	48.28
2	Restriction of chemical fertilizers can loss farmers comodity	65.52	14.94	0.00	5.75	13.79
3	If my work field poses environmental problems, I better look for another job alternatives	56.90	36.21	0.00	5.17	1.72
4	In the shopping daily, we can use the plastic for the containers of groceries	6.90	4.02	0.00	53.45	35.63
5	I will be friendly environment if others do it too	22.99	14.37	0.00	60.34	2.30
6	Human activity does not have a significant impact on global temperature change	10.34	23.56	0.00	52.30	13.79
7	I prefer to hand over the task of in print than in the form of soft file	1.72	13.79	0.00	36.21	50.00
8	I will use the recycle paper despite the costs that higher	0.00	2.87	0.00	5.17	91.95
9	Limitations on the availability of natural resources is a concept that is not real	0.00	9.20	0.00	14.37	76.44
10	Technology will always provide the right solution to the problem of the availability of resources	10.34	6.32	0.00	29.31	54.02
11	The loss of one species will not disturb the balance of the ecosystem as a whole	12.07	16.67	0.00	11.49	59.77
12	Increasing the abundance of polar ice caps are melting because of the thinning of the ozone layer is a common phenomenon	0.00	9.77	0.00	38.51	51.72
13	The Government should bring in foreign investors to manipulate the natural resources of Indonesia to boost the country's foreign exchange	5.17	12.64	0.00	33.33	48.85
14	The industry requires modern equipment to process residual smoke production despite having to spend the cost of an expensive	7.47	9.20	0.00	48.28	35.06
15	In the area of dense population , need for water installation processing for drinking water even though the cost is expensive	98.28	1.72	0.00	0.00	0.00
SD		29.15	8.84	0.00	20.36	27.88
Average		17.25				

Figure 2. Environmental Concern Statement

From this figure describe that participants were asked about the global environment issues and standar deviation is 17,25%. This indicates that the most students have concern about 15 issues.

Correlation Testing

The results of Pearson's Product-Moment Correlation are presented below. The results of hypothesis test can be found out by referring to p-value and comparing to the determined p-value (0.05). Table 1 indicates the results of correlation hypothesis testing.

Correlations		Attitude	Concern
Attitude	Pearson Correlation	1	.205*
	Sig. (2-tailed)		.027
	N	117	117
Concern	Pearson Correlation	.205*	1
	Sig. (2-tailed)	.027	
	N	117	117

*. Correlation is significant at the 0.05 level (2-tailed).

The analysis results point out that environmental attitudes have correlation value of 0.205 with p-value of 0.027. The p-value of 0.027 which is less than 0.05 implies that there is a relationship between environmental attitudes and environmental concerns. Both have positive correlation, meaning that the higher the level of environmental attitudes is, the higher the level of environmental concerns will be, and vice versa. This signifies that curriculum and affective learning have resulted in actions showing environmental concerns. The results are in line with the statement of McBride, Brewer, Berkowitz, & Borrie (2013) which explain an attitude as response on environmental problem through lifestyle, one of which is by purchasing environmentally friendly products, attempts to preserve resources, environmental law enforcement, encouragement of environmentally friendly practices, and supports for environmentally friendly policies which raise environmental concerns.

The hypothesis is accepted. There is a significant relationship between environmental attitudes and environmental concerns. The correlation results yield significant relationship between environmental attitudes and environmental concerns surrounding high schools in Surakarta. It is indicated by correlation values of variable x and y of $0.205 > 0.165$ (r_{table} with significance level of 5%, where the number of samples is 117). In addition, descriptive analysis outlines that the main factor influencing environmental attitudes is environmental concerns. Dunlap (2003) illustrates environmental concerns as respondents' concerns regarding environmental protection. Environmental concerns involve attitudes indicating concerns related to limit to grow, pollution, economical establishment, and natural resource conservation.

4. Conclusions

In reference to the research results and discussion, some conclusions are drawn:

- There is a positive and significant relationship between environmental attitudes and environmental concerns of high school students in Surakarta, as indicated by the correlation values of variable x and y ($0.205 > 0.165$).
- Environmental attitudes involve readiness to behave towards environment, for instance readiness to help, support, get close to, and accept surrounding environment to raise concerns for the balance in environment.
- Environmental attitudes and environmental concerns are associated to create humans who realize, have concerns about environmental problems, have thoughts towards a situation, possess skills, motivation, and commitments enabling them to give solution and to carry out preventive measures towards environmental threats. This is in accordance with the purpose of Education for Sustainable Development (EfSD).

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FACTORS INFLUENCING FINANCIAL LITERACY AND INVESTING BEHAVIOR OF YOUNG FILIPINO PROFESSIONALS

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Abstract

Financial literacy is a person's ability to understand how money operates, how someone manages to earn, how that person manages it, how it will be invested to earn more, and how it will be used to help others. Financial literacy may lead to improved quality of life and increased desirable life outcomes. Investment behavior is defined as how investors' judge predicts, analyze and review the procedures for decision making. The Cradle to Grave Model was used to evaluate the financial literacy and investing behavior of 200 young Filipino professionals, who are between the ages of 19 through 34, and are doing technical or professional work. Research findings reveal that there is a direct and moderately strong correlation between financial literacy and investment behavior. Educational agents, socialization agents, and the media have varied results to the young professionals' financial literacy and investing behavior. Regardless of age and gender, young professionals lack financial literacy skills. Media is most influential to a young professional's financial literacy and investing behavior. Young professionals save and budget for life's necessities and for future needs, and which may improve the quality of their lives, but they lack the skills to apply in investing on financial products that can aid in the growth of their available funds. The best option for these young professionals' to improve their financial literacy skills and to invest wisely is in their workplace, now that they are already working, the organization where they are part of and their colleagues have a critical role to play in building up financial literacy levels.

Keywords: financial literacy, investing behavior, cradle to grave model

1. Introduction

Financial Literacy and Investing Behavior of Young Professionals

Capitalism began when money-form came to encompass the totality of society. Money contains the power to extend the system of slavery over all life. Money itself has become the master. Money is a medium through which everything passes between a person's life and his means of life. Money has a powerful effect that commands all things, commodities and humans alike. It is the universal form of exchange value. Money represents commodity. Commodities are tangible objects which a person needs in order to survive. What lies behind commodity is the labor-power extracted from the worker. Capitalism arises when humans enter their labor-power into the market as a commodity to be bought and sold. Money is still a secondary function. It does not permit the exchange but merely facilitates the exchange. Nevertheless, money still is the equivalence of humans and commodities by bringing both together under a single universal form of value (19).

After the 2008 global financial crisis, personal finance has become increasingly important. Many people faced many financial problems such as lost jobs and not enough savings. These experiences indicate the importance of financial literacy knowledge and that financial management skills should start at a young age because it will be difficult to correct in the future. Financial planning mistakes should be made in the first stages of independent life, training the person to be financially independent (50).

In Asia, its economy is considered a developing society. It has extremely diverse levels of financial development. Financial literacy is a requirement for the improvement of the welfare of its citizens and society as a whole (28). The Asian economy was also negatively affected by the global financial crisis.

President Nakao, the head of the Asian development bank, developed the three "I"'s in building financial literacy for the ASEAN (Brunei Darussalam, Cambodia, Indonesia, Lao People's Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam) nations. These are Innovation, Inclusion, and Integration. The mix of financial access and

financial education gives a foundation for a good market conduct that leads to economic growth and improvement of the individuals' financial behavior. Good financial behavior has become the core goal of many countries (28). A financially good education in an individual is not enough. It should also be a financial education of the society, and of the whole nation. The exponential impact where the government financially educates everyone can progress a nation economically. What makes up a country are its people who are innovative, productive and financially educated where it can withstand any financial storms from the outside economic world.

Innovation is equivalent to risk-taking and organizations that create new products or technologies take on the greatest risk because they create new markets (12). One such innovation is the invention of paper money, which started in Asia. Today, one of Asia's developing countries, the Philippines, introduced the Smart money from Smart and the G-Cash system from Globe, with the authorization from the Central Bank (28). These two mobile phone companies created a new concept of electronic cash transactions which includes money transfers, utilities, and salary disbursements just by using the handset (3).

Inclusion means having a universal access at reasonable cost to a wide range of financial services, provided by sound and sustainable institutions. The government is responsible for promoting financial literacy to its citizens since this is an integral part of the inclusion (28). While the Philippines has financial access, the most population who lack budgeting and money management skills still face money as a challenge.

Moreover, on integration, cooperation remains the core value to many global and regional societies. For example, the Alliance for Financial Inclusion (AFI) is a global network of financial policymakers from more than eighty (80) developing and emerging countries working together to increase access to appropriate financial services for the poor (28).

Based on empirical observation many people around the globe are still financially illiterate. Econometric models and experiments proved that there is a causal impact of financial literacy on economic decision making. After the worldwide financial crisis, policymakers around the globe are deeply concerned about the widespread lack of financial knowledge. Consumer credit and mortgage borrowing have sprouted. People now are able to decide how much to borrow by using credit cards and

subprime mortgages. Alternative financial services like pension funds, pawnshops and auto loans have increased thus pushing the responsibility to save and invest wisely. In the past, people mainly relied on pension plans given by the company, now, disintermediation required the people to decide where to invest and save to meet their needs and not outlive their assets (42).

Financial education and inclusion play a vital role in achieving financial well-being combating poverty and maintaining long-term economic growth (28).

Financial literacy is the ability to understand how money operates, how someone manages to earn, how that person manages it, how it will be invested to earn more, and how it will be used to help others (25). The demand for financial literacy has become magnified as financial services industries have grown in the last two decades providing various services and products.

Everyday basics of savings, choosing the right investment strategy or obtaining the right mortgage require a degree of financial skill. Individuals here are not only faced with greater choices and opportunities but face the greater risk of making poor decisions. Financial literacy can reduce money mistakes such as overspending and under-saving. Financial literacy should be taught in every person's stage of life to become most effective in their money management skills.

Financial planning involves analyzing the financial position and the setting of short-term and long-term goals. It is important to have skills in personal finance to make correct decisions from their day to day living, such as what to buy, or what not to buy. Financial planning helps save money in the long term as not so important items would seldom be bought. One of the best ways to increase personal finance management skills is to track a budget and fix all the incomes and expenses. That is why financial literacy knowledge is vital (50).

Financial literacy is a cure for effective money management and wealth optimization. Ideally, individuals should be taught at every stage of their lives, while attending school, high school, and university, the financial matters such as exposing them the importance of savings, money management. Moreover, employers should educate and engage employees in investments for retirement, and strategies on the preservation of capital. Financial literacy is taught in the form of money management skills, such as budgeting, spending, saving and investing. Through educational agents (e.g., Parents, school, university, and employers), socialization agents (e.g., Peers and colleagues),

and media (e.g., social media, electronic media, television, and print media), financial literacy will eventually lead to wealth optimization.

Wealth optimization is predominantly composed of diversified investments (e.g., Investment in properties, stocks, trust funds, and insurance) and will result to financial independence (62).

In the Philippines, where a study was done in Iligan City, evaluating financial knowledge and skills of micro and small entrepreneurs found that college education is positively related to financial knowledge but years of operation in the business negatively affect financial skills.

Financial knowledge composed of taxation, time value of money, financial institutions, and investment securities. These findings give policy makers a basis on what interventions and programs are necessary to the contribution of the economy's growth and employment generation (30). This emphasizes the need for financial literacy education may be taught formally in schools because of the complexity of the financial transactions today.

Investing can be in many forms. People can invest in stocks, or invest in putting up a business. In the Philippines, micro-entrepreneurs play a significant role in the development of the economy, because it bridges the purchasing power of the greater number of the population. A low financial literacy might adversely affect the future of the business. Financial literacy for micro-entrepreneurs covers the ability of record keeping, savings, financing, and budgeting (61).

Financial literacy is quite low, especially among micro-entrepreneurs. The government, through its local arm, should intervene by providing basic financial education, a low-cost funding for support, and provide linkage to organizations with aligned advocacy in helping small businesses (7).

Investing in the stock market is another form of measuring financial literacy. However, research shows that even financial literate investors are not good with general investment decisions. Further suggestions suggest that cognitive abilities have a more predominant factor in influencing financial decisions (49). Financial literacy to effective money management can change investment behavior.

Every investor wants to buy low and sell high, but investors face many challenges with rational investment management such as social obstacles like herding (the comfort of behaving similarly to one's peers) and career risk (the risk of failing unconventionally). An emerging field

of neuroeconomics hints that humans may be neurally wired to be bad investors (59).

Investment Behavior defined as how the investors' judge, predict, analyze and review the procedures for decision making, which includes investment psychology, information gathering, defining and understanding, research and analysis. The whole process is investment behavior (60, 2).

What can help investors avoid mistakes in asset allocation and improve future performance is to have a good knowledge about investor behavior, particularly the cognitive judgment biases and the process of decision making that can enable investors to construct appropriate tools to support making decisions more efficient and effective (72).

Financial literacy has the power to change a person's investment behavior to become better in budgeting, saving money, and controlling spending, planning on retirement and successful accumulation of wealth (9).

Junior Achievement Park in southern California was established to educate students in the field of business, economics and free enterprise through practical experiences. An experiment done in 2012 showed that students exposed to financial literacy education completed the program faster. Financial choices are made by delaying immediate gratification with long-term rewards (14).

Financial literacy statistically links to financial behavior concerning cash flow management, credit management, savings, and investments. Those who are knowledgeable and those who consult from family, friends, and personal experience had higher index scores than those who are not (33).

The difference between spending and investing is that spending is to use money in exchange for goods or services. It includes non-durables, semi-durables, and durables while investing is the decision to use money into investments to increase one's personal or business income (12).

Spending habits between Men and Women differ on some aspects. It can be observed that in the Next 11 countries namely, Bangladesh, Egypt, Indonesia, Iran, South Korea, Mexico, Nigeria, Pakistan, Philippines, Turkey and Vietnam, gender equality is also improving. Gender equality gives women more influence on decision-making power among households and markets. Women's spending priorities differ from men. Men prioritize their needs first like buying alcohol, cigarettes, high-status consumer goods and even "female companionship" while women spend money for the improvement of the

family's welfare like household goods specifically for children, food for the family, healthcare, education, clothing, and personal care products (36). However, regardless of gender differences money still gives a feeling of pleasure and satisfaction.

The National Statistics Office of the Philippines conducts Family Income and Expenditure Survey (FIES). The most recent showing the characteristics of female-headed households (FHH) and male-headed households (MHH) where a study was done in the year 2009 (Appendix B, Table 5).

The study showed that:

- a. Male headed households spend more on alcoholic beverages and tobacco while Female-headed households spend more on personal care.
- b. Male headed households spend more on food than female-headed households by 5% percentage points.
- c. Female-headed households spend more on education and medical services.

A study in the Philippines reported that women who have control over the savings shift expenditures to family-targeted durable goods such as washing machines or kitchen appliances (71).

For the Philippines, there remains a great barrier between the educated and the uneducated, and poverty remains high. Curing the corruption in the system can achieve long-term economic growth.

Master Card's Financial Literacy Index (2014H1) has been created based on a survey conducted between July 2014 and August 2014 based on 8,087 respondents aged 18-64 years old in 16 countries across the regions: Asia/ Pacific, Middle East, and Africa (Appendix B, Figure 3). The financial literacy index is the 4th survey of financial literacy conducted since 2010.

Taiwan advanced to top rank from the 3rd rank with 73 points. Emerging markets like India gains the most from its previous 15th to 12th rank. Developing country Malaysia moves from the 5th to 6th place with a score of 69. The Philippines remained unchanged on the 8th spot but its financial literacy declined from 68 to 66 points across Asia/Pacific, Middle East, and Africa (46).

In the Philippines, the combination of the good policy environment and strong support proved to be an effective technique to financial inclusion. It showed that technological innovations supported by good business models and government policies could be utilized to deliver low-cost, efficient financial services to the poor. The same market-oriented approach

has led to the qualification of more diversified microfinance services like micro-deposits and micro- insurance. The Philippines is considered as one of the pioneers of mobile banking. However, bank penetration is still low, especially in remote places. Even if the Philippine microfinance sector is ranked as one of the top in the world, there are still a large number of unmet demands in the country (3). Some of the unmet demands are the education for the poor, lack of infrastructures, and lack of adequate jobs for adequate potential employees. Corruption has taken its toll in the country that these unmet demands may be difficult to fulfill.

According to Bangko Sentral ng Pilipinas (BSP), financial inclusion is defined as "a state wherein there is an effective access to a wide range of financial services for all. In the World Bank's Financial Literacy Index Survey, only 27% of adult Filipinos had formal bank accounts, way below the average for the world economy of 46% and the East Asia and Pacific Region of 42%. (Appendix B, Table 6). While 19% of firms have sourced their working capital from banks, a significant majority of small enterprises in the informal sector still face severe financial constraints. At the end of 2012, microloans represented a meager share (less than 1% or P 8.4 billion) of total banking loans in the country (P 3,622 billion) despite the fact that this micro, small and medium-sized enterprises account for 99.6% of industries in the Philippines (3). People who do not have the right financial education may not participate in the financial services of the bank. They are most likely to participate in the financial services of illegal informal sectors like loan sharks who charge extremely high interests that drain the borrowers' savings in a short time.

Conceptual Framework

Characteristics of young professionals.

The study will focus on young professionals, where financial literacy has a great impact on them. Young professionals value financial planning more as compared to high school students or college students. The reason is that financial decisions may directly affect them, and this is the phase where they earn and spend their savings, and they see the value of money.

Young professionals are between the ages of 19 through 34 who are working in a technical or professional workforce, and they are also considered critical to the economic workforce as a whole. More young professionals graduate from college works in fast-growing occupations

and are considered more diverse in skills as compared to the past generations (17).

The profile of the Philippines' young professionals is as follows: college-educated Filipinos between the ages 19 to 24, and 25-34 years old. They are employed in well-paying professions. The majority are females in their mid-20 to 30s and predominantly single and employed in intellectual and idea based job functions with the majority holding positions in knowledge process outsourcing, financial institutions, and fast-moving-consumer-goods companies. They make up 3% of the population, and 7% of the total workforce. On average, they make P471,000.00 (\$11,000) annually in the NCR Region, which is 3.5 times the per-capita gross national income. The money they spend comprises more than 20% of the discretionary consumption or money spent on luxury goods, recreation, vacations, and other non-essential goods and services (18).

Income mobility in the Philippines is still low despite the growth in the GDP of 4.1% annually from 2009 to 2012. Average per capita household income increased only by 0.36% annually. The reason is for the offsetting of the upward and downward mobility. High economic growth contributed to upward mobility, but still natural calamities and the Philippine government's ineffectiveness in minimizing poverty inflows like lack of social protection services and inefficient redistribution policies contributes to the downward mobility (44).

According to the Philippine Statistics Authority, as of October 2014, the labor force in the Philippines increased by 2.8% for the employed and decreased by 4.6% for the unemployed. The age group of 25 to 54 years old in the labor force of the Philippines increased by 0.5% from 35,082,000 to 34,503,000. Female participation in the labor force increased by 0.4% while male participation increased by 0.3%. In the CAR region, employment rate increased by 2.1% from 726,000 to 741,000 (53).

The average income in the Philippines for the CAR Region is P219,000.00 annually and the average expenditure is P174,000.00 annually as of 2009 (54).

Low-income employees may have the most positive impact on their financial behaviors after having been exposed to financial information from financial advisors, as opposed to middle-income or high-income employees. The reason is that the information from formal advisors has no significant effect on their already positive financial behaviors. Low-income employees are more motivated than high-income employees

because of the need to improve their financial literacy (34).

Agents influencing financial literacy.

Sundarasan, Rahman, Rajangam, and Sellappan (62) originated the conceptual framework on 'cradle to grave' financial literacy programs and money management. The conceptual model emphasizes that individuals should be exposed to perpetual education from school to work and finally in the preparation for retirement. There is no one-time cure educational program that would improve financial literacy, but it should be a lifetime practice that will change the behaviors of individuals to become financially literate.

Educational agents.

As parents, the family is the most significant source for most of a child's financial knowledge. Parents must realize this because they play an essential role in transferring knowledge of the realistic and sensitive aspects of money. Usually, the financial attitude of parents reflects that of their children. They play the role of primary educator. Young adults feel financially equipped if they get a good financial education at home. It shows that the best education starts at home because schools play only a small part in a child's financial education (68). A child's brain development starts at an early age, and this is the time where parents teach them the importance of money. Usually, this is the best time to coach a child on financial literacy because their brain development is still ongoing, which means absorption of knowledge is more ingrained and have a lasting effect on them.

Financial education is necessary for young adults that will lead them to make good decisions in their money management and also to better the economy. When young people learn about personal finance, they will take with them those skills and habits into their adult years. Parent's personal feelings affect how they pass on financial information to their child. If parents feel uncomfortable about their personal finances, or think that their children will not understand, or do not want their children to stress about it, they will not teach their children basic financial matters. Moreover, if parents want their children to have strong knowledge of personal finance to have a better future, they will be comfortable talking with their children about financial matters. There should be more emphasis on parents helping their children's financial knowledge. The confidence of parents' sharing financial knowledge to their children connects between lifestyle and financial capability of the

household (68). Parents can teach the importance of budgeting by identifying wants versus needs, savings systems like allocating money from their allowances for long term goals and also be a role model by having a healthy relationship with money (64).

The Jumpstart Coalition for Personal Financial Literacy which is a USA organization is recognized as one of the most widely referenced resources in understanding what young people know about personal finance. Their research suggested that financial literacy programs might be wasted on those too young to grasp key concepts, the research indicates that teenagers are not interested in, or are not capable of, taking money management issues seriously until they are in their late teens and early twenties. The Jumpstart Coalition surveyed the college level and showed that financial literacy has a positive impact on self-beneficial behavior. Students are more likely to be receptive to behavioral change where they can see that it would immediately and directly benefit them personally (63).

One reason why financial literacy scored low among the high school students, even if they have taken the course on personal finance, is the lack of motivation to learn or retain these skills (47). Another reason is the lack of training from their parents, which is why there is no motivation or encouragement on learning financial matters.

Financial literacy and decision support go hand in hand. There is an interaction between financial education and decision support that help students improve their behavior on financial decision making (14).

Another organization is the Junior Achievement (JA) Biz Town. It is an organization based in Central Indiana, USA. It is a simulated town facility particularly focused on elementary students to help them achieve the workings of the real world. Some of the activities are operating banks, managing restaurants, writing checks, and voting for the mayor of JA Biz Town. The program provides in-class learning with a daylong visit to the fully interactive simulated real world community.

Elementary school students need a lifetime of learning and academic achievement through career exploration and financial literacy. According to research, career development begins in early childhood and peaks at age ten (10) when students model their behavior and career aspirations after their parents (11). Often, Parents' behavior towards handling money reflects that of their children. For example, going to the grocery and buying what one needs, or choosing the cheaper alternative, or choosing

promo packages. Another is going to the market and asking for a discount from the vendor, or looking for the produce that has the lower price in a different location. Everyday living where parents can incorporate financial literacy in almost all transactions that involve cash is essential to the development of a child's financial literacy.

Teaching financial literacy to young students using motivational experiences to allow them to look beyond the current situations and envision a life of self-sufficiency, in which needs are met, and dreams become reality. The best way to teach young students is by providing simulation experience that will create a lasting learning environment that has a connection to the real world beyond the school walls that will help them through their future decisions as workers, community leaders, and consumers. Confidence in financial literacy is the key to achieving success, socially and economically in adult life. Experiential learning is the optimal learning because it uses one's knowledge and skill in a practical experience. Examples are working as an employee or supervisor, balancing a checkbook, paying loans, being responsible for their safety and the safety of others in the real world of work (11).

Most university students live apart from their parents, in this regard, they make financial decisions on their own from savings, spending, to investing based on their financial knowledge (58).

College life is the best time to become independent financially because there is no risk involved yet. Allowances given by parents are one form of budgeting one's money to divide it into savings and expenses.

Among the college students in Malaysia, studies show that most students are interested in learning financial skills, they emphasized that career planning to be the most important, followed by social interaction, and time management. Results indicate that students are concerned about their future life after graduation because they are at the age when their financial behavior has a significant effect on their future (20).

To enhance financial literacy among its university students, Bank Negara Malaysia has put up a program that includes developing and disseminating educational materials on financial products and services, using booklets and websites with the collaboration of the Ministry of Education and Financial Institutions. Financial educational outreach programs are also administered through strategic partnerships with other organizations. The Malaysian government

offered educational loans under the National Higher Education Fund (PTPTN) as an alternative to lessen the parents' burden by supporting the cost of education. Since most of the populations in Malaysia are university students, increasing their financial literacy can increase their purchasing power, making them one of the important customer market segments in the economy.

As university students, there are higher levels of financial responsibility like paying bills, use of credit cards, savings, budgeting monthly expenses and managing student debts. When there are more pressures on the students, learning financial literacy becomes easy. Issues today, state that high school students are reluctant to deal with finances because high school often emphasizes on the preparation of college or acquisition of skills to get a good job and to earn income rather than personal financial literacy. There are nearly 32% of college students who asserted that they are not very well prepared for managing their money during their first year of college (58).

Studies have shown that when employers include financial literacy programs in their organization, an increase in productivity and increase in retention and employee engagement will arise. The increase in productivity and reduced absences results from employees who are financially confident. The increase in retention and employee engagement results from employees who believe their employers are trustworthy sources of information. Financial literacy in the workplace promoted organizational pride and increased morale resulting in work satisfaction, reduced turnover and the attraction of qualified workers. Employees who participate in financial literacy programs improve on their decision making and increase in their confidence because they gain a sense of control over their lives and enjoy higher standards of living. Employees also have a chance to build assets, reduce debt and plan for their retirement with the right financial literacy skills. Some of the financial literacy education programs include budgeting/money management, debt management, savings for family needs, and retirement planning. But, even if employees and employers will both benefit from the financial literacy programs, employers still are concerned about the high cost and liability issues for providing poor financial advice. There may also be concerns about employers becoming too personal on their employees' personal financial matters. In this instance, employers should implement effective programs and practices that will help both

parties. There would be an increase in satisfaction and confidence for the employees and increase in profit for the employers. Financial educational programs in the workplace have demonstrated significant success. Well-planned programs emphasize that personal finance has an impact on personal financial behavior (6).

In the Philippine industry, employers helping employees on budgeting and other management skills are not present. Only in large multinational corporations where employees are encouraged to join cooperatives to obtain loans are common.

Socialization agents.

Investors with higher financial literacy are more likely to use formal sources of information and advice such as newspapers, the internet, and financial advisors, than with informal ones such as friends, relatives, colleagues, and neighbors (56).

Research shows that peers have an impact on savings, financial decisions making, and pension participation and contribution. They are one of the important contributors of information and financial advice. Peer characteristics such as peers who planned to attend college, peers who attend church, and peers who smoked also play a role in the differences in financial literacy (43). Often, one is a reflection of his friends because they have the same personality and usually have the same perception regarding money matters.

In a study conducted in the United States, older women are more financially illiterate than the other older population as a whole. There is evidence that retirement planning tools are used by women who are more financially literate. The planning tools used for retirement by older women are information from family, friends, and financial experts. Those consulting financial planners are more likely to become successful in their retirement plans (40). One reason for older women being financially illiterate is that women are stay-at-home and take care of their children while men are more exposed to different kinds of situations outside the home like dealing with customers, bargaining, and negotiating.

Financial literacy is strongly and positively associated with planning for retirement. Knowledge about risk diversification best differentiates between sophisticated and unsophisticated investors and depth of knowledge matters on how likely it is to succeed in planning for one's retirement (41).

Employers, by setting up a workplace with educational activities that foster financial literacy can lead to an open policy environment where

employees become comfortable to open up about issues affecting them financially. Colleagues are supporting each other can ultimately impact the bottom line by creating a positive environment (48).

Studies have shown in Chile that individuals who have low education, income, and financial literacy depended more on employers, friends and co-workers for advice than on cost fundamentals when selecting a pension fund for retirement (31).

Media.

In Australia, the government is encouraging all its citizens to learn financial literacy. One of the ways is through social media. As new communication channels emerge, it is important that all organizations, especially the government to communicate to consumers about financial matters. Social media can do this by creating an opportunity to engage consumers in a two-way conversation. Other social media channels like Facebook, Twitter, and YouTube engage consumers and investors on financial literacy themes (4).

As an example, Facebook has a financial literacy education on its website. Facebook have pages that contain financial literacy programs and researches which are open to anyone interested in learning financial education. The only problem is the lack of motivation from the Facebook members, only a few are interested in joining these programs.

Technology can help expand financial literacy through the use of the internet and realizing the vision of anytime anywhere financial education by targeting specific needs, expanding possibilities for educational participation, supporting diverse educational types and providing more engaging approaches to teaching and learning (67).

In the speech delivered by Chairman Arthur Levitt (38) of the Securities and Exchange Commission in 1999, he emphasized that financial literacy is one of the most important and profitable lessons that one can learn in life. Too few have had the opportunity to learn the money basics in school, work, or at home. The media can help fill this gap. People at every age and income level must understand the basics of savings and investment. The SEC and a partnership of nearly 50 government agencies, business groups, and consumer organizations launched the "Facts on Savings and Investing Campaign" with its slogan "Get the Facts, It's your Money, and it's your Future". The campaign serves as a vital source for the media. Partners developed tools that help people ask the

right questions and get the right answers on money matters. Examples are, the American Savings Educational Council has a one-page worksheet called Ballpark Estimate that guides people quickly on how much money they should save per year for retirement, and the Mutual Fund Cost Calculator, which allows investors to compare in dollars and cents how mutual fund costs add up over time (38).

Financial literacy from Rosen Digital prepares K-12 students for their financial future right from their computer, iPad, iPhone, iPod Touch or Netbook. This program helps users learn to manage credit and debt, save and invest, plan for college and retirement and avoid fraud and scams, which makes economics and money management easy to understand, and also, it translates to fifty (50) languages, another form is the Smart Investing at your Library: from the American Library Association which helps address the growing need for unbiased financial and investor education at the grassroots level for people who need help financially (32).

Parents who lack money smarts will have a tough time raising money-smart children. It will be up to the media with the help of the government to teach these skills.

The problem is putting these programs to use, even if many projects are created, it would be useless if no one is interested. Electronic media financial literacy are not pushed to its users enough, only games for entertainment that can enhance brain flexibility on reasoning and logic are in trend today but not financial literacy skills.

Government officials and financial professionals have become increasingly concerned with consumer financial illiteracy and the effects of poor financial decision making. In 2008 an en masse mortgage mania resulted in an en masse foreclosure meltdown in the United States. A record of 3,157,806 foreclosures was filed, an increase of 81% over 2007 and a 225% increase over 2006. This was a result of problems arose from the household mortgage market where investors wanting more money caused lenders to increase their supply of mortgage which sells to investors as mortgage-backed securities in the secondary markets. Just to increase sales, the mortgage was given at low rates to less creditworthy borrowers by ignoring credit assessment and income verification. Eventually, these high-risked loans defaulted because borrowers were unable to pay resulting in mass foreclosures. Foreclosed houses were sold to the market, but since everyone was in deep debt, there were no buyers willing to buy even at a low price. This resulted in a \$700 billion

financial rescue government bail-out in the mortgage market. Another reason is parents' lack of financial literacy. There's a general feeling of financial discomfort that they cannot teach their children the necessary financial skills. Educational institutions have been called to teach students, but the follow through has been limited in effect. Consumers equipped with limited financial education and low self-confidence are faced with making high impact financial decisions despite the unstable economy. The media can play a significant role in financial education by providing financial advice and giving examples of financial decisions and their consequences. Consumers desperate for financial guidance can use the media as another educational resource. Television has a history of presenting itself as an educator in particular to lower income individuals. Studies showed that when Channel One in the United States was created in 1989, it provided free video and satellite equipment to school districts in exchange for the opportunity to broadcast ten minutes of current events plus two minutes of commercials daily. Schools with a majority of low-income students were twice as high as to participate in the program as compared to schools with a majority of higher income students. It clearly showed that these public schools have established the role of television as an educator to their students. One example of financial literacy incorporated in the media is the cable television reality show, *King of Cars*. *King of Cars* shows a major Las Vegas car dealership sales techniques and their buyer's car buying decisions. The show presents the sales and marketing tactics of the car dealer trying to convert potential buyers to become new car owners. The show was helpful to viewers by effectively showing that buyers with excellent credit have a better ability to negotiate a price while buyers with bad credit were encouraged to seek help from their friends (55). Viewers can learn the techniques of the car dealer and the buyer with good credit standing on how to negotiate a good deal. Good financial literacy involves the application of financial skills that is critical to certain financial decision making.

In the media industry, credit ratings are more important than ever. Reality TV shows, games shows, and miniseries make up most of the television industry. People are more interested in being entertained than being educated. It will be up to the government to implement financial educational programs to the television media industry.

Print Media is a means or instrumentality for storing or communicating information on

printed matter such as newspapers or magazines (66.).

Sparkassenstiftung für International Kooperation, a German organization, acts as an agent for the development aid in strengthening the capabilities of financial literacy in Mexico, Botswana, South Africa, Namibia and Vietnam. It measured and assessed the various media used to communicate financial literacy to its citizens. One form of media used is the printed media. The use of manuals, brochures, flyers, posters and newsletters, are the most common form of communication. In the case of Mexico's Comisión Nacional para la Protección y Defensa de los Usuarios de Servicios Financieros (CONDUSEF), it distributed its publications to a national network of universities, bookshops, and unions, or through publication in independent, national, and or regional newspapers and magazines. These media may be effective in the sense that they deliver more direct messages to the receiver. Southern African countries favor this kind of approach to financial education (Bank of Botswana, Standard Chartered, Bank of Namibia, and Mindset Network of South Africa.) In Vietnam, only a single provider plans to implement literacy projects using printed media (Association of Vietnamese Insurers) (21).

In Uganda, the framework for strengthening financial literacy is to improve the population to manage their personal finances well. The strategy for financial literacy is to improve people's knowledge and understanding and to help them behave in a financially capable manner. The government agency Bank of Uganda (BOU) created five priority strands that focus on schools, youth, rural outreach, workplace, and media (5). Uganda is not an affluent country but their government still takes the initiative to invest in financial literacy knowledge.

The mass media can reach a whole range of audience using radio, television, and print media. Media, if used the right way has the power to bring about behavioral change.

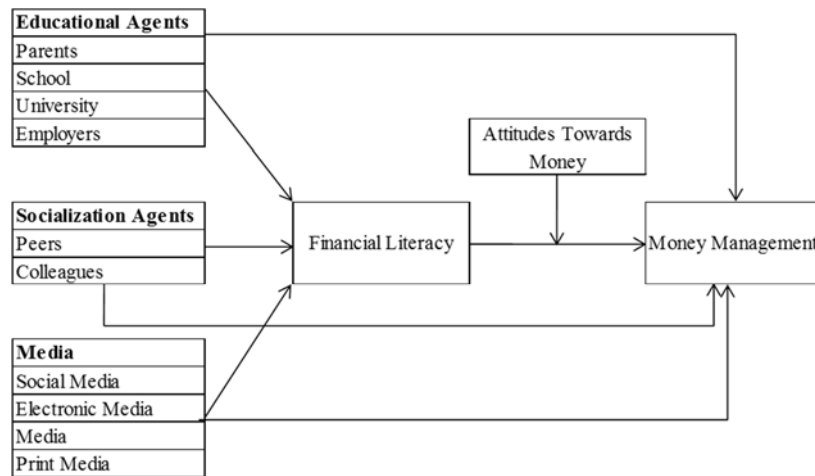
Printed media is one of the methods used. It is used to develop and distribute user-friendly printed financial literacy resources (illustrated leaflets) that can be made available to individuals who participate in financial literacy initiatives. Another way is to develop provisional content (regular columns, articles, features, and pull-outs) in newspapers and magazines and to support print journalists to include financial literacy in their output work (5).

Print media is the oldest form of communication to the public since the inception of media. For developing nations,

communication is limited, accessing the internet is scarce, and there is underdeveloped overall technology, printed media can fill this gap by using newspapers, brochures, and pamphlets to reach people in the rural areas. Print media is the most effective and basic way of communicating financial education to people.

Financial literacy is understanding how money works in the financial system of the economy. It is now more important than ever that almost all money transactions today requires a degree of complex financial skills such as

computing interest rates and understanding different kinds of investments. The 2008 global financial crisis magnified the importance of financial literacy in an economy. The Philippines is no exception. In this study, the best candidates to participate in financial literacy are young professionals, who are risk takers and have disposable incomes to invest. In particular, Baguio city young professionals are chosen to measure their financial literacy and investing behavior.



Conceptual model on Cradle to Grave Financial Literacy programs and money management

Figure 1: Cradle to Grave Model (62).

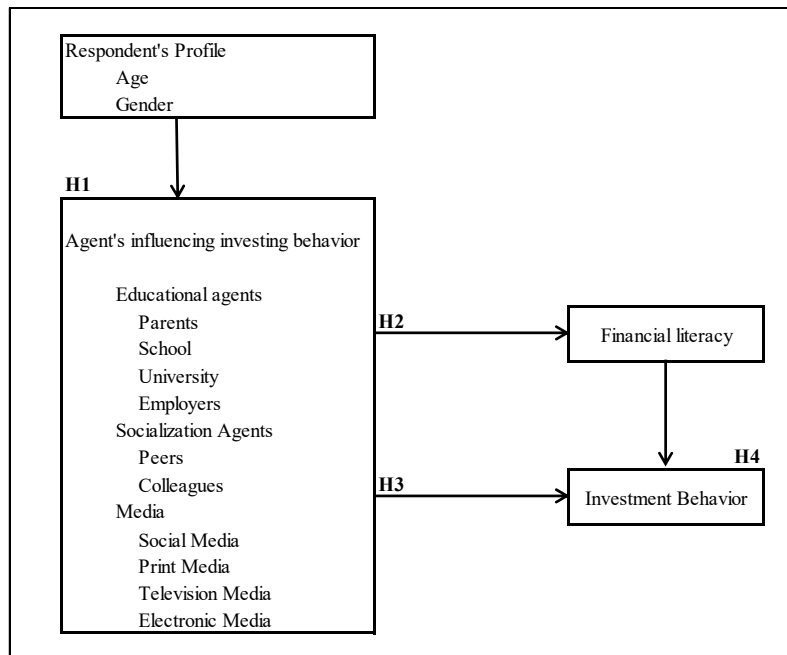


Figure 2: Conceptual paradigm of the study

Hypotheses of the Study.

H1: Young Professionals differ in financial literacy on age and gender.

Financial literacy differs on the type of respondents who will answer the survey based on their age and gender which can show the differences in their financial literacy levels.

Master Card's financial literacy index 2014 surveyed in Asia and Pacific showed that people aged 30 and above are more financially literate than those who are below 30 years old. (Appendix B, Figure 4). In general, developed markets such as Australia, New Zealand and Singapore, consumers aged 30 and above have further improved in financial literacy as compared emerging markets such as Philippines, India, and Indonesia. Women in emerging markets were able to remain at par with their male counterparts in financial literacy (Appendix B, Figure 5). It shows in countries such as China, India, and Vietnam. In the Philippines gender parity improved by 4 points from 2013 to 2014, this is due to women who have become familiar with other financial instruments with their male counterparts. (46).

H2: Financial Literacy is influenced by educational agents, socialization agents, and the media.

Agents that may affect financial literacy are educational agents, socialization agents, and the media. Educational agents are parents, school, university, and employers. These agents are the primary influencers in financial literacy. They usually are the foundation for building financial literacy skills. Socialization agents are peers and colleagues. These are the secondary influencers for financial literacy. Peers and colleagues usually give indirect advice based on their experiences and are not backed up by the fundamentals of financial literacy knowledge. Moreover, the media are the social media, print media, television media, and electronic media. These are also secondary influencers for financial literacy. The media usually fills the gap for the financially illiterate when educational agents and socialization agents cannot give good financial advice. Examples are the newsletters distributed to promote financial literacy, television shows that educate the public, and computer software that enhance the cognitive abilities on financial literacy.

H3: There is an association between investment behavior and educational agents, socialization agents, and the media.

Investment behavior of an individual may be significantly improved if the agents affecting financial literacy such as the educational agents, socialization agents, and the media are fully optimized for acquiring financial literacy knowledge. Improved investment behavior is being able to know how to budget, manage, save, invest, and control one's money that may lead to financial independence.

People should have a good understanding of money management and financial literacy, to be able to reduce bad behaviors like corruption or obsessive materialism. Through education and self-awareness, one can achieve a neutral love for money and reduce cognitive obsession over money and enhance self-control (37). Financial education is a way of objectively dealing with the subjective behavior towards money. Money is just a form of exchange, how society puts weight on it changes its value and meaning. One should be self-aware that money should not control one's behavior, but it should be the other way around.

H4: There is an association between financial literacy and investing behavior.

Good financial literacy skills can change a person's investing behavior positively. This behavior can help an individual improve his money handling skills not just in the short-term but in the long-term as well. The long-term effect in investing behavior is being able to have a financially secure lifestyle without debt, having a positive cash flow and extra money to spend, and investing in a retirement fund. The positive impact of financial literacy on investing behavior is to have the confidence to use one's money wisely without doubting one's own ability to have bad investments.

Given that situation, the study will assess how far widespread is financial illiteracy among the young professionals in Baguio City, CAR region.

2. Methodology

Research Design.

Survey research was used as a tool to learn how individuals behave and think. To achieve high-quality survey results, traditional academic disciplines such as statistics was used to have a quantitative foundation to examine the sources of error and to summarize their effect ("Overview of survey methodology", n.d.).

The descriptive research methodology was used for this study. Questionnaires were

administered to a selected sample from a specific population, which covers young professionals in Baguio City.

The questionnaire was divided into four parts. The first part consists of the respondent's personal details. The second part consists of questions regarding agents that influence financial literacy such as educational agents, socialization agents, and the media. The third and fourth part consisted of financial literacy and investor behavior questions respectively which are adopted by the Organization for Economic Cooperation and Development (OECD) (51) Financial Literacy Questionnaire and Methodological Guidance. It was developed by the International Network on Financial Education (INFE) which aims to measure financial literacy and to provide a baseline and set benchmarks for strategic national programs of a country.

Population.

The target population consisted of young professionals of Baguio City. Young professionals aged between 25 to 34 years old. The study likewise covered the ages 19 to 24 years old since they are considered the working group within the legal age and they also earn independent income from their parents. According to the Credit Lyonnais Securities Asia (CLSA), an organization focused on institutional broking, investment banking and asset management to corporate and institutional clients around the world, which is also Asia's leading equity brokers and investment groups, said that from the growing sector of the Philippine population, a young professional class has emerged, making up just 3% of the population. On average, they make P471,000 annual incomes in the NCR region, which is 3.5 times the average Filipino per-capita gross national income. Young professionals are estimated to save some 25% of their income. In the long run, young professionals will shift to long-term significant investment assets such as property and vehicles, making this group's economic impact even more pronounced and sustainable. The role of young professionals in the purchase of cars and housing units, as well as shares of stocks in the Philippine Stock Exchange, will be increasingly predominant (18). In the CAR region, average income approximates P18,250.00 per month (54).

Samples.

Pretesting was first conducted to test the validity and the reliability of the questionnaire. First, the validity test was done using the Aiken's

V Validity Coefficient (1). Three experts in the field of business and commerce were chosen to rate each indicator in the questionnaire, as not relevant, somewhat relevant, quite relevant, and very relevant. The computed validity coefficient is 0.88. It is greater than the threshold of 0.70. Hence, the questionnaire is assumed to be valid.

The reliability of the questionnaire was pretested using the Cronbach's alpha coefficient of reliability by floating 43 questionnaires to young professionals in universities, government offices, and dental clinics. The computed reliability coefficient is 0.915. It implies that the questionnaire is reliable since the computed reliability coefficient is greater than the threshold of 0.70.

3. Results

Two hundred questionnaires were floated and retrieved. The survey covered the three industries: the academe particularly the universities, medical organization industries, and government offices. The results of the survey questionnaire used T-test, ANOVA, and Pearson Correlation.

Hypothesis 1 stated that young professionals differ in financial literacy according to age.

Results show that the older group (26-34 years old) were more financially literate than the younger group (19-24 years old) (see Table 1). The mean difference, however was not significant as validated by the result of the t-test wherein the computed value (0.65) was lower than the critical value (1.97), for the two-tailed test. This means that there was no significant difference between the levels of financial literacy of the two groups at the 5% level of significance (Appendix B, Table 7).

Both age groups clearly acknowledge that money is important by having some budget and savings to avoid taking out a loan either through legal or illegal means. However, both young professionals aged 19-24 years old and aged 25-34 years old see savings in an informal savings club as not important while young professionals aged 19-24 years old see buying financial investment products such as bond or stocks as not important (see Table 1). It means that both groups of young professionals sometimes save money but do not know where to put their savings into (Appendix B, Table 11).

A study done in Taiwan stated that savings peak from ages 50 to 60 years old. The savings rate rose 20% from the 1980s to 1990s to invest in pension funds because of the increase in life

expectancy. In this effect, a steady rise in savings was observed in all age groups (10).

In China, its savings ratio remains very high as 40% as compared to other nations. People in urban areas are shifting their investments from savings to more risky investments such as stocks and mutual funds to get higher returns on their savings (39).

According to a study by the World Bank, Financial literacy follows an inverted U-shaped for age. Financial literacy is its highest among adults in the middle of their life cycle than those young people and the old people. A survey done

in the US showed that people aged 25 to 65 years old are 5% better in answering financial literacy questions than those people under 25 or over 65 years old (70).

In the study, the two groups aged 19-24 and 25-34 years old were surveyed. The older group were more financially literate than the younger group but not on a significant level. Statistics show there was no significant difference, but it can be noted that on buying financial investment products like bonds or stocks, the older group sees this as moderately important while, the younger group sees this as not so important.

Table 1.
Financial literacy of the respondents according to age

Indicators	19 - 24 years old	25 - 34 years old
Money is there to be spent	2.95	2.85
My household have a budget	3.19	3.17
I find it more satisfying to spend money than to save it for the long term	2.23	2.41
I set long term financial goals and strive to achieve them.	3.18	3.17
I work overtime to earn extra money to make ends meet	2.74	2.57
I take out a payday loan to make ends meet	2.25	2.33
I take out a loan from an informal provider/money lender to make ends meet	2.05	2.26
I use unauthorized overdraft to make ends meet	1.91	2.04
I pay my bills late or miss payments to make ends meet	1.98	2.07
Saving cash at home or in your wallet	3.3	3.33
Building up a balance of money in your bank account	3.46	3.41
Paying money into savings account	3.07	3.24
Giving money to family to save on your behalf	2.74	2.81
Saving in an informal savings club.	1.88	2.51
Buying financial investment products (bonds/stocks)	2.28	2.65
MEAN	2.61	2.72

There is no significant difference between the financial literacy of the 19-24 age group and the 25-34 age group as validated by the t-test wherein the p-value (0.157) is greater than .05.

Hypothesis 1 stated that young professionals differ in financial literacy, according to gender.

It was shown that male professionals were more financially literate than the females. This implied that men have the greater ability to understand how money works or can manage their earnings better than the females. The mean difference, however, was not significant as validated by the result of the t-test, wherein the computed value (1.79) was lower than 1.97. This means that there was no significant difference between the levels of financial literacy of the two groups at the 5% level of significance. Looking at a different angle, the mean rating of the males was significantly higher than that of the females as shown in the result of the one-tailed test (Appendix B, Table 8). Men view savings in the form of a savings account or simply letting the family keep the money in his behalf as more important than women. However, men rarely save in an informal savings club as compared to women (see Table 2).

Master Card Worldwide surveyed financial literacy among women across Asia/Pacific, Middle East and Africa (APMEA) in 2010. Philippine women have a fairly good grasp of financial literacy with a score of 68.5% based on basic money management, financial planning, and investment as compared to Korea with a score of 56% and China with a score of 59.8%. (Appendix B, Figure 6, Figure 7). It shows that women in developed countries are not necessarily more financially literate as compared to women in developing countries. The gender gap between male and female financial literacy by dividing the female financial literacy scores over men's. Philippine women as compared to men based on financial literacy skills are fairly equal as compared to New Zealand, Singapore, and Taiwan which are slightly lower than their male counterparts (45). Although women overall have lower financial literacy almost everywhere from developed nations to developing nations. The reasons are a lack of access to financial products. Women in Asia have higher financial literacy than those in African countries and some Middle East countries (70).

In the Philippines, as a patriarchal society, women in the labor force do not have the same privilege as men with regards to employment opportunities such as promotion and bonuses. They tend to occupy lower positions in the workforce and get lower pay. Patriarchy is still ingrained in the Filipino culture through various

social institutions, the family, religion, the educational system and the mass media (57).

The three agents that influence financial literacy are the educational agents, socialization agents, and the media (Appendix B, Table 9 and Table 10).

Educational agents compose of parents, school, university, and employers. These agents only sometimes influence the financial literacy of young professionals. Parents do not often teach their children about the importance of money management. Only rarely did those students actively participate in any financial education programs during college years. Moreover, only rarely do employers give financial educational programs at work or become supportive of the welfare on the financial literacy of their employees.

Socialization agents are those peers and colleagues at work or outside of work. Peers and colleagues only sometimes influence financial literacy of young professionals on giving useful financial advice on the day to day decisions like budgeting or saving.

The media, composing of social media, television media, and print media. On social media, only selected sites like Google Plus and others give good financial advice as compared to other sites like Facebook or Twitter. Television media sometimes give financial advice to its viewers through shows or infomercials. Print media can also be sometimes become useful in giving good financial literacy advice like how to manage money through brochures or booklets.

Results show that young professionals agreed that money should be saved, spent correctly and should have a budget without taking out a loan either through legal or illegal means. However, they rarely invest their money in any financial instruments like through stocks, insurance or bonds other than a savings account (Appendix B, Table 12).

Since young professionals rarely got financial educational from their parents and also from their academic years, it is best that they get it now from their work especially from their employers, to be able to manage their money and plan for their retirement. Research showed that financial education in the workplace has a strong influence on the personal financial decision, and it can enhance decision-making skills on retirement planning, savings plan, and other investment planning. (8)

Table 2.

<i>Financial literacy of respondents according to gender</i>		
Indicators	Male	Female
Money is there to be spent	2.83	2.92
My household have a budget	3.07	3.24
I find it more satisfying to spend money than to save it for the long term	2.42	2.24
I set long term financial goals and strive to achieve them.	3.08	3.25
I work overtime to earn extra money to make ends meet	2.71	2.65
I take out a payday loan to make ends meet	2.51	2.2
I take out a loan from an informal provider/money lender to make ends meet	2.36	2.01
I use unauthorized overdraft to make ends meet	2.25	1.84
I pay my bills late or miss payments to make ends meet	2.26	1.92
Saving cash at home or in your wallet	3.28	3.34
Building up a balance of money in your bank account	3.24	3.53
Paying money into savings account	3.08	3.2
Giving money to family to save on your behalf	2.96	2.61
Saving in an informal savings club.	2.49	2.13
Buying financial investment products (bonds/stocks)	2.7	2.41
MEAN	2.75	2.63

There is no significant difference between the financial literacy of the male and the female young professionals as validated by the t-test wherein the p-value (0.082) is greater than .05.

Hypothesis 2 states that financial literacy is influenced by educational agents, socialization agents, and the media.

Educational agents are positively but weakly correlated with financial literacy. It means that educational agents affect financial literacy to a little extent only. This relationship is very significant, which means the association between the two is not just by chance (see Table 3).

It showed that educational agents composing of parents, teachers, and employers give weak financial literacy skills to its children, students, and employees respectively. Friends and colleagues can positively influence the decisions on money management and budgeting of a person and much more with the media

through magazines, newspapers, televisions, and the internet.

Studies showed that targeted financial training like a formal education in a classroom has a weak effect on financial literacy and that financial socialization has a direct effect on a positive financial behavior. Financial socialization refers to individuals who acquire financial knowledge through learned attitudes and behaviors aside from theoretical knowledge. Studies done by Grohmann and Menkhoff (29) conclude that parental teaching and experiences with money in childhood have a strong impact on financial literacy and that family has the strongest effect on financial socialization. Although in the Philippine setting, financial education is seldom or not taught at all. Basic math subjects or economics are targeted more on numeracy. According to research, classroom

teaching on money management indirectly affects financial literacy but directly affects investment behavior because it focuses more on numeracy.

Rarely does the business here in the Philippines give financial training on personal finance to its employees. Green (27) stated that employees are often frontline contributors on the operations of the business and should be taught financial literacy courses to understand the business' operations like its inventory turnover or return on assets. To get a good grasp of the company's operations, it will most likely contribute to the success of the business because employees are more aware of the actions that they make can impact business results. This program will not only benefit the company as a whole but also the employees on a personal level.

Socialization agents are positively and moderately correlated with financial literacy. It means that socialization agents affect financial literacy to a moderate extent; the higher the level of socialization, the higher is the financial literacy. This relationship is very significant, which means the association between the two is not just by chance.

Media is positively and moderately correlated with financial literacy. It means that the different kinds of media affect financial literacy to a moderate extent; the higher the level of exposure to media, the higher is the financial literacy. This relationship is very significant, which means the association between the two is not just by chance.

Results show that peers or colleagues and the media play an important role in influencing financial literacy of the young professionals as compared to educational agents. Peers and colleagues at work become dominant influencers when parents, teachers, and employers cannot contribute to an individual's financial literacy development. Media also contribute to financial literacy since they are considered as viewing socialization agents through television, the internet, or in print.

Socialization includes a collection of life events and personal interactions to develop financial literacy skills. Socialization agents commonly are the peers, family, and school. Peers seem to show to be the most influential factors in consumer socialization (22). Peer interaction and the media, particularly in television have a positive impact on financial socialization and are considered secondary influencers on financial socialization while the family are considered the primary influencers (16).

Results show that professionals rarely invest in any form of financial products other than a savings account. Opening a current account comes in second, then followed by investing in stocks, and then followed by the other investment products (Appendix B, Table 12).

It clearly shows that young professionals lack the knowledge and skills to understand the other investment products that could potentially produce higher returns, than by merely depositing it in a savings account.

One reason why young professionals do not use other investment products is the lack of financial literacy among Filipinos, where the average Filipino was only able to answer 3.2 out of 7 financial literacy questions, and one out of ten lack the basic understanding of financial concepts (69).

Individuals who lack financial literacy are also more prone to information-framing when given two investment choices with their relative benefits (31). Information-framing is true among low-educated individuals because they are less confident and are more likely to be influenced by others' opinion as compared to educated individuals who have their opinions on financial matters.

Framing effect is an example of cognitive bias, in which people react to a particular choice in different ways depending on whether it is presented as a loss or as a gain (23).

According to studies, 34% of Filipinos use informal savings such as saving at home as the most common financial behavior. Filipino adults scored 67% in planning for unexpected expenses, 66% in achievement orientation, and 64% in farsightedness, but they still have a struggle with daily money management, and long-term planning for old age expenses (69).

In the Philippines savings rate across the population declined significantly in the 2000's. One reason is the establishment of the social security system, health insurance, and home loans, which negatively affects saving and also reduces the household's precautionary savings motive. However in the 1990's precautionary savings was strong among the Filipino household when the social security system was still limited. The increasing social security coverage will further decline private savings among the households in the future (65).

In 2005, 36% of the total Philippine population was composed of ages 0-15 years old. It means that there is an increase in the number of dependents and health expenditures resulting in lower savings in the household. On the other hand, excess savings, particularly in China, is

caused by increased uncertainty in their economy and lack of support by the government on healthcare, pension system and education (35).

In China, before the 1990's, equity markets were not available, Chinese investors have no other choice but to invest their money merely in banks (39). The most basic and most important financial service are bank savings account because it secures the households from theft, it

pays interest, and it is used a means for sending or receiving payment transactions. By establishing a relationship with both the household and the bank, a savings account is a gateway to other financial products for the improvement of the household welfare. Savings accounts are the most common way where household participation in the formal financial sector begins (15).

Table 3.

Correlation between Influencing Agents and Financial Literacy

Correlation Variables	Correlation coefficient, r	Interpretation
Educational Agents and Financial Literacy	0.292**	Weak
Socialization Agents and Financial Literacy	0.415**	Moderate
Media and Financial Literacy	0.528**	Moderate

Hypothesis 3 stated that there is an association between investment behavior and educational agents, socialization agents, and the media.

Investment Behavior is defined as how the investors' judge, predict, analyze and review the procedures for decision making, which includes investment psychology, information gathering, defining and understanding, research and analysis. The whole process is investment behavior (60, 2).

Investing behavior is the application of financial literacy. Results show young professionals use a savings account as an investment tool. It also means that investing behavior of young professionals, in general, is weak for lack of investment in other products like a pension fund, mortgage or a current account.

Educational agents have the least influence on investing behavior. Since parents, teachers, and employers seldom teach financial literacy in effect there would also be a weak correlation to investing behavior.

Studies in Bangkok show that financial literacy directly affects parental teaching while investment behavior indirectly affects school teaching represented through the investment of various assets like pension or stocks and bonds (29). In the Philippines the influence of educational agents have a weak association with investment behavior because financial literacy is rarely taught by parents and teachers. Parents who have poor financial literacy have weak investment behavior. Moreover, schools which

do not delve into economics subjects may lead to weak financial literacy leading to weak investment behavior.

Employers as educational agents directly affect investment behavior through the introduction of various investment tools like pension or insurance. Cakebread (13) says that workplaces are the next venue for incorporating financial literacy after schools. Employers can implement savings program for retirement or deduction for pension plans, and help employees save and budget through various training. These benefits also improve the productivity of employees by reducing their financial stress.

Socialization agents have a moderate impact on financial literacy but a weak impact on investment behavior. Peers and colleagues also seem to invest rarely in other financial products other than a savings account and this behavior affects the behavior of the individual.

Colleagues and peers are considered informal tools for providing financial decisions and indirectly affect investment behavior because it relates the most to the financial help-seeking behavior of the individual involved. Those who seek help from a professional on personal financial matters are more confident about their behaviors and attitudes towards money than those who seek help from informal sources (26).

The Media only has a moderate impact on financial literacy and also a moderate impact on investment behavior. It shows that people are

more influenced by television, the internet, and the newspapers and magazines.

Media has the effectiveness to change investment behavior through the mass media public information campaign. Examples of

targeted behaviors like smoking, diet, or drug use have been effective to change the behavior of the community. The only issue is the credible source that would promote the behavioral change like savings and budgeting (24).

Table 4.
Correlation between Influencing Agents and Financial Literacy & Correlation between Influencing Agents and Investing Behavior

Influencing Agents	Financial Literacy		Investment Behavior	
	Correlation coefficient, r	Interpretation	Correlation coefficient, r	Interpretation
Educational Agents	0.292**	Weak	0.242**	Weak
Socialization Agents	0.415**	Moderate	0.315**	Weak
Media	0.528**	Moderate	0.515**	Moderate

Hypothesis 4 stated that there is an association between financial literacy and investing behavior.

The Pearson correlation coefficient is 0.673 which means that the correlation between financial literacy and investing behavior is direct and moderately strong. It implies that if financial literacy is high, investing behavior is also high.

Investing behavior is a financial behavior, where the individual learns to have good behavior in budgeting, saving, and control spending (52).

There is a correlation between financial literacy and investing behavior. The result shows that respondents have a weak financial literacy and in effect have weak investing behavior. Young professionals agree to save and have a budget but do not invest in other financial products other than a savings account.

When people know more about financial literacy in money management, savings, and budgeting, they would be able to invest in other financial products that can produce higher returns through interest, and profit.

A study in Bangkok shows that higher financial literacy has a positive effect on investment behavior. Factors affecting financial behavior are diversification of assets such as investment in other products in addition to a savings account. There is an increase of 12% in the diversification of assets when respondents answer correctly financial literacy questions. (29).

4. Discussion.

The results show that young professionals here in Baguio City still lack financial literacy skills, regardless of the two age groups and regardless of gender, where they have a similar level of financial literacy. Lack of financial literacy, in turn, leads to weak investment behavior where diversifications of investments are lacking. The Media is most influential in financial literacy and investing behavior. Educational agents such as parents, school, and employers rarely contribute to financial literacy of young professionals, and their influence on investment behavior is weak. Socialization agents such as peers and colleagues moderately impact financial literacy but have a weak impact on investment behavior. Young professionals save and budget, but still, lack the necessary skills to invest in other financial products.

Current evidence of the study shows that young professionals still lack the necessary skills to be financially literate to improve investment behavior for both genders and age groups of 19-24 years old and 25-34 years old.

Evidence also shows that there is a strong correlation between financial literacy and investing behavior. Of the three, educational agents, composing of parents, teachers, and employers rarely teach financial literacy to their children, students, and employees respectively.

Further studies may include some issues such as, to know the current financial literacy level of the youth from the high school and university levels, employers' current program on

financial literacy to help young professionals on their money management skills and long-term financial plans and governments' initiative to improve financial literacy, using the mass media and putting policies that encourage people to save and budget.

The government should intervene to promote financial literacy through education, media, and in the workplace. Young professionals are no longer students in universities, and most are already independent from their parents in earning income, they should look for other sources of financial literacy training or skill building to help them to be financially independent.

Firstly, young professionals should take the initiative to encourage financial literacy in the household by teaching their family what they've learned. Financial literacy training programs to teach parents how to budget and save in each household. In turn, parents can use these tools to teach their children. And financial literacy training programs to help teachers be equipped with personal financial management skills. Financial literacy subjects should be emphasized in high school subjects like economics or math subjects. It will improve numeracy among the students that in turn will have a positive impact on financial literacy and will lead to good investment behavior. Schools can partner with banks and government institutions to hold seminars and training on financial literacy subjects.

Secondly, on socialization agents where the workplace should provide space and time wherein colleagues and co-employees interact with each other on financial literacy subjects. And finally, the media where financial literacy should be promoted on television or through public seminars sponsored by government institutions. Mass public awareness on financial literacy education to promote public financial health

Community with strong financial literacy skills and education has a good effect at a national economic level as well as on a personal level. Research shows that there is a positive correlation between financial literacy and economic development (measured by gross domestic product per capita) and financial development. Moreover, higher literacy leads to more savings and attracting more investment and growth in the country (13).

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APPLICATION OF MULTIMEDIA IN SCIENCE LEARNING USING GUIDED INQUIRY METHOD TO IMPROVE CRITICAL THINKING SKILLS OF SEVENTH GRADE STUDENTS IN HEAT TRANSFER MATERIALS LESSONS

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Abstract

The purpose of this research is to know the difference of improvement of critical thinking skill of seventh grade student in heat transfer materials through science learning using guided inquiry method with in aided multimedia and without the aided multimedia. The research method used is quasi experiment with design "pretest-posttest control group design" The subjects of the research were seventh grade students of 66 people in one of the secondary schools in Cianjur district, which is divided into 2 groups. The first group as the experiment class as many as 33 people using guided inquiry learning in multimedia and second group as control class as many as 33 people using guided inquiry learning without aid multimedia. The data was collected using the critical thinking skills test instrument. Based on the data analysis, the average normalized gain score (N_gain) was 0.41 for the experimental class and 0.33 for the control class. It shows that the improvement of critical thinking skills of the experimental class is greater than the control class. hypothesis test using Mann-Whitney test samples with SPSS 16 shows that the sig (2-tailed) = 0.044. This result is lower than the value of $\alpha = 0.05$. So it can be concluded that there is a significant difference in the improvement of students' critical thinking skills in heat transfer materials who get learning using guided inquiry method with in aided multimedia and without aided multimedia.

Keywords: guided inquiry; multimedia; critical thinking skills

1. Introduction

Education is a conscious and well-planned effort to create an atmosphere of learning and learning process so that learners actively develop their potential to have spiritual power, self-control, personality, intelligence, noble character, as well as the skills needed themselves, society, nation and country, Which is contained in the National Education System Act of 2003.

Education plays an important role in the progress and future of the nation, without good education it is impossible for to develop nation. Success or failure of an education in a country one of them is because the teacher. Teachers have a very important role in the development and progress of their students. From here teachers are required to be able to perform the tasks as well as possible. [3] said that to be able to achieve the expected teaching objectives, teachers must be good at choosing the appropriate learning methods and instructional media and in accordance with the needs of students, so that students feel happy during the learning process runs.

Media is a tool or means used to convey a message. Learning media has a function to convey the message of learning so that it can stimulate the thoughts, feelings, attention, and interest of students that lead to the learning process. Hamalik (1986) argues that instructional media is "the tools, methods and techniques used to further streamline communication and interaction between teachers and students in the learning process in school".

The use of learning media will greatly help the effectiveness of the learning process as well as the delivery of messages and content of the lesson so that it can help students improve understanding and thinking ability because it presents information in an interesting and reliable way.

Learning media continue to develop along with the development of information and technology world. [1] said that new technology, especially multimedia, has an increasingly important role in the learning process. Associated with the media presence, [2] explains that a well-organized media systematically affects educational institutions such as family,

religious, school and scout institutions. The use of multimedia in the learning process is intended to improve students' understanding of the information or learning materials provided

Multimedia utilization is expected to provide optimal results when combined with appropriate learning methods. One of the learning method that will be studied is guided inquiry method. The use of guided inquiry method is caused by the intellectual development of students at the age of junior high. According to Piaget, the age is at a formal operational level (Wood et al, 2011: 4-5). That is, in this period children can already think logically,

The use of multimedia in learning will improve the efficiency, motivation, and facilitate active learning, experimental learning, consistent with student-centered learning, and guide learners to learn better. [6] states that people are only able to remember 20% of the views and 30% of what is heard. But people can remember 50% of what is seen and heard and 80% of what is seen, heard and performed at once.

According to Bruner (Dahar, 1996) inquiry learning is a learning that is in accordance with the nature of humans to seek knowledge actively. Furthermore Dahar argued, by applying inquiry learning students are used to experimenting and finding their own concepts learned.

The purpose of this research is to know the difference of improvement of critical thinking skill of seventh grade student in heat transfer materials through science learning using guided inquiry method with in aided multimedia and without the aided multimedia.

2. Method

This research is a quasi experiment research with pretest-posttest control group design research design, which is design involving two class groups. The first class as the experimental class using guided inquiry method with in aided multimedia, and the second class as a control class using guided inquiry methods without

aided multimedia. The design of this study can be described as follows :

Table 1. research desain

Class	Pre-test	Treatment	Post-test
Experiment	O	Y_1	O
control	O	Y_2	O

Y_1 : guided inquiry method with in aided multimedia

Y_2 : guided inquiry method with out aided multimedia

O : Observasi

The subjects of the research were seventh grade students of SMPN 1 Warungkondang Cianjur in academic year 2016/2017 totaling 66 students divided into 2 classes ie experiment class (33 students) and control class (33 students). The sampling technique used was non-random sampling , This is because it is not possible to change the composition of class members that have been established by the school, meaning researchers choose the subject of research based on the available class arrangement.

3. Results and Discussion

Data on critical thinking skills are obtained through pre-test values and pos-test values at the end of the learning for the experimental class and control class. The test of critical thinking skills consists of 10 essay questions on heat transfer materials.

Before the learning begins, the experimental and control classes are tested to determine students' early abilities. Statistical test analysis for data processing early ability of critical thinking skills processed by using software SPSS version 16.0 for Windows.

Descriptive statistics pre-tests Critical thinking skills can be seen through the following table.

Table 2. Data for Pre-test Critical thinking skills

Class	N	x_{min}	x_{max}	Data	
				\bar{X}	SD
Experiment	33	25	60	42,88	9,685
control	33	20	55	42,58	10,392

Based on table 2 above, the minimum value of experimental pre-test experiments of class 25 and control class 20. Maximum grade of experiment 60 and control class 55. The average pretest value of critical thinking skills of

experiment class and Class control has different value, Ie 42.88 and 42.58. Although on average, the pre-test value of critical thinking skills in the experimental class is higher than the pre-test value of critical thinking skills in the control

class but the difference is not much. The difference in the average pre-test value in the experimental class and control class is 0.30. From these simple data, it can be deduced that the experimental class and the control class have the same initial ability of critical thinking skills.

The assumption that the average value of both groups of data above is the same will be analyzed through statistical tests. The test was performed by non parametric test with Whitney Man test. The hypotheses were tested as follows:

$$H_0 : \mu_1 = \mu_2$$

There is no difference in the mean value of pretest critical thinking skills between the experimental class and the control class.

$$H_1 : \mu_1 \neq \mu_2$$

There is a difference in the mean value of pretest critical thinking skills between the experimental class and the control class.

Hypothesis test criteria by using P-value (significance or sig), if sig. (2-tailed) > α , then H_0 is accepted. Man Whitney test results pretest data can be seen in the following table.

Table 3. Mann Whitney Test Results for data pretest critical thinking skills

Sig. (2-tailed)	Decision on H_0	Conclusion
0,907	H_0 accepted	No difference

Based on the above table, the sig value. (2-tailed) > α , so it can be said that H_0 is accepted. This means there is no difference in the average pretest value of critical thinking skills between the experimental class and the control class. It can be concluded that students' critical thinking skills between the experimental class and the control class at the beginning of the study are the same.

After the learning, the experimental class applying multimedia in learning with guided inquiry method while the control class applied guided inquiry learning without aided of multimedia is done critical thinking skill test with the same instrument as the initial test. Achievement of critical thinking skills is seen through an analysis of the postes value in the experimental class and control class. The description of postes value of critical thinking skill can be seen in the following table.

Table 4. posstest data critical thinking skills

Class	Data				
	N	x_{min}	x_{max}	\bar{X}	SD
Experiment	33	40	95	65,45	13,599
control	33	30	90	59,85	14,710

Based on the above table, it appears that the minimum posttest value of the critical thinking ability of the experimental class is 40 and the control class is 30, while the maximal postcode grade of critical thinking skills is class 95 and control class 90. In addition, Postes The experimental class is 65.45 times greater than the control class with an average score of 59.85. Furthermore, statistical tests were performed to determine the improvement of both classes.

The next step, to know how far difference of posttest value of critical thinking skill of experiment class and control class is done by non parametric test by using Man Whitney test. The hypotheses were tested as follows :

$$H_0 : \mu_1 = \mu_2$$

There is no difference in the mean value of posttest critical thinking skills between the experimental class and the control class.

$$H_1 : \mu_1 \neq \mu_2$$

There is difference in the mean value of posttest critical thinking skills between the experimental class and the control class.

Hypothesis test criteria by using P-value (significance or sig), if sig. (2-tailed) > α , then H_0 is accepted. Man Whitney test results posttest data can be seen in the following table.

Table 4. Mann Whitney Test Results for data posttest Critical thinking skills

Sig. (2-tailed)	Decision on H_0	Conclusion
0,099	H_0 accepted	No difference

Based on the above table, the sig value. (2-tailed) > α , so it can be said H_0 accepted. This means there is no difference in the mean score of postes of critical thinking skills between the experimental class and the control class. It can be concluded that critical thinking skills between the experimental class and the control class at the end of the study are the same.

After the postes data of critical thinking skills is obtained, further data on the improvement of critical thinking ability is formulated with N-Gain. Increased students'

critical thinking skills are described as follows. The improvement of students' critical thinking skills is described as follows.

Table 5. N-Gain Result Data for Critical thinking skills

class	N-Gain			
	N	x_{min}	x_{max}	\bar{X}
Experiment	33	0,09	0,90	0,41
Control	33	0,00	0,86	0,30

Based on the above table, it can be seen that the mean value of N-Gain in experimental class students applying multimedia in learning with guided inquiry method is 0.41 greater than the mean value of N-Gain in the control class students whose learning used guided inquiry method without aided multimedia of 0.30. it can be seen that the minimum value of N-Gain in experimental class 0.09 greater than the minimum value of N-Gain in the control class students of 0.00. it can be seen that the maximum value of N-Gain in experimental class 0.90 greater than the maximum value of N-Gain in the control class students of 0.86

The next step is to examine the average difference in N-Gain in critical thinking skills between the experimental class and the control class. The hypothesis is constructed as follows.

$$H_0 : \mu_1 \leq \mu_2$$

The average N-Gain critical thinking skills of the experimental class did not differ significantly from the control class.

$$H_1 : \mu_1 > \mu_2$$

The average N-Gain critical thinking skills of the experimental class differ significantly from the control class.

Hypothesis test by using P-value (significance or sig) If $\text{sig} > \alpha$, it can be concluded that H_0 is accepted. An average difference test N-Gain critical thinking skill of experimental class and control class is done by Mann Whitney test. Average N-Gain critical thinking skills as follows.

Table 6. Mann Whitney Test Results for data N-Gain Critical thinking skills

Sig. (2-tailed)	Decision on H_0
0,044	H_0 rejected

Based on the above table, the significance value (2-tailed) N-Gain data of critical thinking skills is 0.044 less than α (5%), so H_0 is rejected. This means that the average N-Gain critical thinking skills of the experimental class and control class differ significantly. The conclusion

is that there are differences in the improvement of critical thinking skills of students applying multimedia in learning with guided inquiry method with students who do not apply multimedia in learning with guided inquiry method

Based on the score and the result of post test data analysis of critical thinking skill in heat transfer materials, the experimental class students applying multimedia in learning with guided inquiry method as a whole are more improved than the control class students who get the learning with guided inquiry method without the aid of multimedia .

This is indicated by the difference between the average gain of the final test and the normalized gain of the two classes. Higher acquisition of final test scores and experimental class gain compared to the control class is the effect of the application of multimedia in learning with guided inquiry method.

Overall gains normalized students' critical thinking skills on higher heat transfer materials in the experimental class. This happens because in experimental class that apply multimedia in learning with guided inquiry method gives opportunity for students to construct or build concepts learned through scientific method, either with group investigation activity, or with the help of simulation so that can help student In understanding abstract concepts becomes easier. While the learning done in the control class of giving abstract material information is done by the teacher by way of lecture, so there is dependence of student on what informed by teacher.

This is in line with previous research conducted by Wahyudin (2010) states that the implementation of inquiry based learning in guided multimedia provides an increase in students' understanding [8].

4. Conclusion

Based on the results of research and discussion as described, the conclusion is obtained that there is a significant difference in

the improvement of critical thinking skills of students who receive guided inquiry learning with in aided multimedia and without aided multimedia.

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THE IMPLEMENTATION OF THEMATIC LEARNING ON SOCIO-CULTURAL BASED OF THE FIRST GRADE ELEMENTARY SCHOOL'S STUDENTS

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Abstract

The 2013 curriculum supports the fulfillment of the students' learning needs by implementing integrative thematic. Learning cannot be separated from its context, thus the role of environment especially the socio and cultural environment is very important in supporting students' cognitive growth. Thematic learning in the 2013 curriculum is very relevant with the socio-cultural aspect. The base of socio-cultural aspect is the essence of the community's social processes. Socio-cultural aspects can be in the form of cultures, nature's potentialities, community's job, and the social order of society and many more which can be included as region's potentialities. The objectives of the research were: (1) to find out the implementation of integrative thematic learning of the first grade of elementary school, (2) to find out the constraints in implementing thematic learning on socio-cultural based of the first grade elementary school. The qualitative descriptive approach was used in this research. The subjects of the research were: (1) seven elementary schools in Pedan District of Klaten City; (2) first grade homeroom teachers in Pedan District. The objects of the research were the implementation and the constraints in socio-cultural based learning of the first grade in the second semester. The techniques of data collection were observation, interview, and documentation. The data analysis used Miles & Hubberman which is implemented through data reduction steps, data display, and conclusion drawing. The data validity testing used source triangulation and technique triangulation. The result of the research showed that: (1) the implementation of integrative thematic learning on socio-cultural based run well, but it was not in the maximum stage yet, the first grade homeroom teachers still needed more knowledge related to integrative thematic learning on socio-cultural based; and (2) the general constraints faced in implementing socio-cultural based learning were the limitedness of schools means and infrastructures, and the lack of teachers' abilities in developing learning books.

Keywords: integrative thematic learning, socio-cultural based learning

1. Introduction

The educational curriculum in Indonesia, especially in elementary school has changed from KTSP Curriculum to the 2013 Curriculum. The 2013 Curriculum stresses more on thematic learning (integrating some subjects into one theme). The thematic learning in the 2013 Curriculum inserts the scientific approach into the learning model. The prospect of this change is to focus more on the students' learning results through total evaluation and meaningful learning process, thus there will be born the next generations who have broad knowledge, good attitudes and skills, and be able to compete in global society.

In implementing the 2013 Curriculum, it's identified that school's learning emphasize more on learning experience aspects which are in line with students' talent and interest. Considering the fact that students' characteristics in Indonesia are different each other, so it needs to be carried

out the identification of local social and cultural elements (local socio-cultural) in students' learning resources to create the effective classroom in acquiring meaningful learning experiences.

The learning process is arranged by considering socio-cultural aspects to maximize students' potentialities. The students get socio-cultural aspects from their families and societies, thus if those socio-cultural aspects owned by the students being integrated in teaching and learning process, it will ease them in understanding the lesson. The 2013 Curriculum supports the fulfillment of students needs by implementing thematic. The students' involvement in learning process is being more prioritized and the purpose of learning is to activate them to give them direct experiences in order to camouflage the separation between one lesson and another.

The learning process which is suited with socio-cultural life can be possibly to enable the

students to construct their own knowledge and to apply it. The learning process is packed in such process that involves students' special social and cultural, thus after teaching and learning process is over, the students are able to construct socio-cultural, for example the teachers are regarded as knowledge sources and the students are regarded as passive receivers, that way is opened for the students to accept it without being criticized even though it is being performed in any form based on their knowledge. This socio-cultural theory approach uses society and cultural as inspiration in learning process[9]. That opinion is suitable with the research from John Steiner and Mahn [6] entitled "*Socio-cultural Approaches to Learning and Development: A Vygotskian Framework*" that says:

"Socio-cultural approaches emphasized the interdependence of social and individual processes in the construction of knowledge. The role played by culture and language in human development is an essential aspect of the Vygotskian framework and work is examined, particularly as it contrasts with other perspectives on the process of internalization of social interaction in the construction of knowledge".

The social customs, beliefs, values and languages are parts of the things that forming one's identity and reality. Someone's thinking pattern is built based on his social and cultural background. This is in line with constructivism theory from Vygotsky that explains knowledge is not the collection of facts from a statement that being learnt but as someone's cognitive construction towards objects, experiences, and environments[3]. Knowledge is not a determined thing before hand but a forming process. The more someone interacts with objects and environment around him, his knowledge and understanding toward the objects and those environment will improve and is detail.

The implementation of the 2013 Curriculum in Pedan District was in phase and limited. In the academic year of 2013/2014, the 2013 Curriculum was implemented in all schools, and then being stopped for one semester, and was continued in the academic year of 2016/2017 just for seven elementary public schools in Pedan District. Based on the result of the observation and interview carried out on January 16-March 15, 2017, it was still found out some constraints in implementing thematic learning based on socio-cultural. According to the observation of the thematic learning process, the learning process runs as one way process. It meant that the students less active in the process.

The introduction to the social and cultural (socio-cultural) environment around the students was very limited. From the explanation above, it can be seen that some public elementary schools in Pedan District still have problems and constraints in implementing thematic learning based on socio-cultural for first grader. Based on those findings, it can be drawn the objectives of the research namely (1) to find out the implementation of integrative thematic learning of the first grade of elementary school, (2) to find out the constraints in implementing thematic learning on socio-cultural based of the first grade elementary school.

2. Method

The research used descriptive qualitative approach. It was an approach that describe and interpret the objects as it were[12]. The population of the research was first grade of elementary schools in Pedan District which have implemented the 2013 Curriculum. The locations of the research were seven elementary schools, namely SD 2 Kalangan, SD N 2 Jetiswetan, SD N 1 Keden, SD N 2 Keden, SD N 3 Keden, SD N 2 Tambakboyo and SD N 1 Sobayan. The subjects of the research were first grade homeroom teachers in Pedan District. The objects of the research were the processes and the constraints in socio-cultural based learning for first grader in the second semester. The main data collection technique was interview, while the supporting data collection was observation and documentation.

The interview was carried out by the researcher by digging as much as possible data that had any relation with the research objects to find out the implementing of thematic learning based on socio-cultural in public elementary schools in Pedan District through learning process and daily life in the schools. The interview was carried out to the first grade teachers.

In this research, the observation was done to find out the learning process, extracurricular activities, and observing cultural life or daily life in the schools, thus the researcher would know deeper about how the implementation of socio-cultural based learning was carried out in those schools.

The observation that was done in this research was participative observation, since the research involve directly into the daily activities of the observed people or the people who were used as data sources in the research, thus the data collected would be more complete and clear. For example: observing the extracurricular activities,

the learning process in the classroom, and students' habitual in the school's environment to keep the environment.

The documentation as supporting method in the effort to get data from special activities could be used as documentations to explain the condition by the researcher. In this research, the documentation was used to support the data acquired from the interview and observation, so the data would be more credible. The documentation in this research included: the 2013 Curriculum and lesson plans/syllabus made by the teachers based on socio-cultural based learning that was implemented, the list of teachers' evaluation related to the implementation of socio-cultural based learning.

The data analysis technique used analysis technique by Miles and Hubberman cited in Ariesto Hadi Sutopo, et.al [1]. The qualitative data analysis consisted of three activities that occurred simultaneously, which were data reduction, data presentation, and conclusion drawing/verification. The researcher used credibility testing as sources triangulation and technique triangulation.

3. Result

The research was carried out in elementary schools in Pedan District of Klaten City where located on around Pedan District office. There are seven elementary schools in Pedan District which implemented the 2013 Curriculum. The distance between each elementary school around the district was not so far. All of the seven elementary schools in Pedan District did not use parallel class system. The location and the atmosphere in this district were very conducive for learning process, since it was laid at the countryside which was quite calm. Besides that, the social and cultural in this countryside was still strong. It was proved by the quite amount of lurik craftsman and the local art was still well kept, such as "wayang orang", moreover, the social care and the care between people was still well being kept.

Based on the document analysis results and interview done by the researcher, the lesson plan for learning in Pedan District elementary schools was made by the KKG Team. Therefore, almost all the first grade teachers had the same syllabus and lesson plan. From all of the seven elementary schools, just one teacher made his own lesson plan.

Based on the result of the interview and document analysis about the lesson plan which was used by the seven teachers, it could be concluded that there were two types of syllabuses

and lesson plans which were used by the teachers in Pedan District. The first syllabus was made by the KKG Team, while the second syllabus was made by the teacher. According the result of the document analysis, some of the elements of syllabus and lesson plan contained socio-cultural based thematic learning, but some of them did not have it. The elements that showed socio-cultural based thematic learning were main materials, learning activities, and the indicators of competencies accomplishment. Meanwhile, the elements which did not show socio-cultural based thematic learning were the evaluation and learning resources which were going to be used. However, in the syllabus and lesson plan did not contain the noble values of social and cultural which were implicitly implied in the learning activities.

The second syllabus and lesson plan were the syllabus and lesson plan used by one teacher. According to the result of the document analysis, the elements in the syllabus and lesson plan that showed socio-cultural based thematic learning included main materials, learning experiences, the indicators of competencies accomplishment, and evaluation. Meanwhile, the elements that did not show socio-cultural based thematic learning was learning resources, since he did not utilize the cultural community that scattered around the students as learning resources, but only in the form of pictures. However, in this syllabus and lesson plan has already contained the socio-cultural value which was implied in the learning activities.

When the researcher was conducting the interview, all of the seven first grade teachers gave statements about their understanding of socio-cultural based thematic learning. From the statements of those seven teachers, almost all of them did not understand the essence of socio-cultural based thematic learning. There were only two teachers who clearly understand, they were TP and SS whose statements contained the keywords "relating social and cultural around society". However, their understandings were not one hundred percent true about the essence of socio-cultural based thematic learning. This matter, however, of course would implicate in learning process in the classroom.

But the researcher also has analyzed the result of the observations at each school. Each school was being observed for three meetings. In general, it could be concluded that the teachers in implementing socio-cultural based thematic learning have given their best efforts. All of them have implemented the form of socio-cultural based thematic learning. In general, at the introduction activity (conditioning), the teachers

had been relating the students' experiences with the material to be taught. In the main activity (creating meaning), the teachers tried to implement the form of socio-cultural based thematic learning. If it was seen based on the form of cultural physically, there were five teachers who could be said to use learning through culture since the teachers presented concrete media from cultural products to deliver the lesson. Meanwhile, the other two teachers did not use learning through culture. All of the seven teachers have given role model through their actions while teaching.

Based on the result of the interview with the seven teachers, it could be concluded that the constraints in implementing socio-cultural based thematic learning were the limitation of books, learning media, teachers' comprehension toward social and cultural around the environment thus they still had difficulties in integrating socio-cultural learning into the material of the 2013 Curriculum. The implementation of the 2013 Curriculum was presented in the model of integrative thematic learning. Integrative thematic learning was describes as a learning system that enabled the students, both individually and group, actively digging and finding the concepts and scientific principals holistically, meaningful, and authentically. This model used thematic approach that involved some subject matters to give meaningful experiences to the students.

The process of integrative thematic learning which was carried out in the schools did not pay much attention the local socio-cultural values where the schools were belong. It was because the books provided by the government were the teacher's books and students' book which were arranged nationally so there were some materials that were not suitable with local socio-cultural values.

The teachers very needed books that were based on the 2013 Curriculum aside from Kemendikbud. All this years, the teachers just used the books provided by Kemendikbid. The teachers needed interesting learning books to encourage the students to be creative.

4. Discussion

The 2013 Curriculum implemented integrative thematic learning model which did not leave the previous model and teaching methods. Each learning which has purpose to improve certain skill was still conducted in the integrative thematic approach. [10] adds "Integrated Thematic Instruction based curricula stress the integration of all disciplines to present

students with learning experiences that are based in real-world application and structured to encourage higher-order learning".

Thematic learning in the 2013 Curriculum demands the teachers to make learning instruments that enable the learning process in the classroom to run well. For the teachers, it is very important to design the learning in the classroom that enables the students to be more active and creative in order to improve the quality of the students. The teachers with their own experiences will succeed the learning only if it is suited with the students' socio-cultural life. It is way far away with the facts on the fields, based on the results of interview and observation, there are still many teachers who did not have understand the essence of socio-cultural based thematic learning. When observing the fields, there were some teachers in the learning process implemented one way learning process. Therefore, the teachers still needs more guidelines about the 2013 Curriculum and socio-cultural based thematic learning.

Socio-cultural is more known as social aspects and cultural in the society. The students start learning from these aspects, culture in the home, in the school and in the society. Socio-cultural aspect is basically the essence from the social process in the society. [8] explains that the essence of socio-cultural is learning viewed from social process, in which lays on the cultural context, organization, and history. The socio-cultural aspects can be in the form of culture, nature potentiality, communities' job, and social order of society and many more that can be used as local potentiality. Local potentialites of course are really useful in learning. According to the principals, learning process starts from the concrete to abstract and from the near to the far. By utilizing all the potentials around the region, of course it will ease the students to start learning. Based on the result of the observation and interview, there are still found out some teachers who do not deeply understand about their local potentiality, viewed both from social aspects and cultural aspects.

Based on the result of the observation, the teachers unconsciously, in fact have implemented socio-cultural based learning. It is proved as they used learning through cultural in the learning process. The teachers used media form their cultural products around the students, likes "kain lurik" to explain the example of human-made.

Socio-cultural is regarded as the connection between learning subjects and objects. [2] that learning through connection or mediation as culture happens when people use symbolic tools

to organize their activities, in the form of cultural symbols that they have. This interpretation is supposed to be that culture could be the connection and mediation in learning. The students will learn easier about the knowledge by mediating the culture they already know. Learn from the closest things with them will be more easily understood by them.

The teachers as the educators should use socio-cultural as the connection in delivering knowledge. [5] explains that the teachers, who use social cultural theories in teaching, will mostly probably encourage their students to interact in the classroom and arranging various learning activities. Learning that is conducting by using socio-cultural aspect will be easier to be taken by the students. Media which is used are also easily taken and varieties. Knowledge transfer will be easily conducted.

The students build their knowledge easier if they interact with their surroundings. It is in line with Vygotsky [11] as follows:

- a. Social interaction is very important in helping building knowledge for a student
- b. Self-arranging is developed through internalization
- c. Human development takes place through cultural tools
- d. Language and cultural tools are very important
- e. ZPD is the difference between what cannot be done and can be done by students themselves

Based on Vygotsky's above, the students' knowledge forming process does not separate from social interaction and the use of surrounding social cultural.

Socio-cultural approach relates to the integrative thematic approach. It is in line with the Dolya's opinion [4] who says that learning which implements elements from the surrounding offers integrative thematic approach. The students' knowledge will be acquired as a whole without being separated from every subject matter being taught. The students learn plants for example; from the plants the students learn colors, simple counting, and other subject matters. Human development that includes many aspects is considered as the aspects from socio-cultural discipline. This interconnection underlies the conducted integrative thematic learning based on socio-cultural.

The implementation of socio-cultural based learning should pay attention the social cultural component to students themselves. The students bring social cultural aspects around them, where

it is influenced by parenting patterns and the society. [7] that students' behaviors in the schools are determined by the cultural norms they got from the home, especially the behaviors from the mothers. Parents' roles really influence students' behaviors. These behaviors will be showed in the school. The teachers should pay attention to these aspects in teaching, the aspirations from every student should be taken into account in order to form balance multicultural class.

The implication of socio-cultural based thematic learning is to insert the students' social cultural elements into learning process. Socio-cultural elements which are inserted are local potentialities and variation of jobs around them. Socio-cultural aspects become the bridge in conducting learning process in order to ease the students conducting learning process. Conducting learning process needs preparation and arranged in curriculum. The teachers are counting the socio-cultural aspects around them. The responsibility senses, tolerances toward culture which are brought by the students needs to be aroused so those tolerances between students can be formed.

Socio-cultural aspects have not yet been inserted to the maximum by the teachers in the learning process. It is because the lack of teachers' understanding about socio-cultural based thematic learning, the limitedness of learning media, and learning resources like books. The books are really needed as learning resources. The books make the creation of environment and atmosphere that enable the students to learn. The books covered knowledge as learning resources to ease the learning process in order to reach the objectives of learning to the optimum.

According to the result of the interview can be explained as socio-cultural based thematic learning still relies so much to the books provided by the government. The books provided by the government in the form of teacher's book and students' books are arranged nationally thus some of the materials are not suitable enough with the local socio-cultural values. The schools have not yet developed another book. So the learning activities have not yet developed by the teachers. The schools still use books provided by the government or buy it from the publishers. This dependence of course will cause the learning that does not involve socio-cultural aspects around the schools' environments. The learning is still general and national.

The teachers need interesting learning book and encourage the students to be creative. Therefore, it is needed to develop learning books

that are appropriate with the 2013 Curriculum by inserting socio-cultural aspects (socio-cultural values). The socio-cultural based integrative thematic learning books are developed according to the elementary students' characteristics in the stage of concrete operational thinking and learning from the surrounding. The socio-cultural based learning books development has a purpose to give learning resources which can build students' knowledge by using cultures around them as material contents.

Learning books that implementing the 2013 Curriculum socio-cultural based and developing students' characteristics are really needed to support the learning process. The socio-cultural values are integrated into integrative thematic learning in the elementary schools. Since the elementary educational as the base of education, thus succeed of the elementary education determines succeed to higher level of educations.

Based on the result of the result and the discussion above, it can be concluded that: (1) in the matter of conducting learning, the activities done by the teachers has not yet refer to the lesson plan. The teachers also do not understand the essence of socio-cultural based thematic learning. But, the teachers have implemented socio-cultural based thematic learning. All the teachers tend to implement learning form with culture and through culture. Besides that, the teachers also insert noble social values to the students through learning activities. (2) the constraints faced by the first grade teachers in elementary schools in Pedan District in implementing socio-cultural based thematic learning are the teachers have little knowledge media and learning sources in socio-cultural based thematic learning. Media and learning sources in socio-cultural based thematic learning do not only in the form of learning tools, but also through thinking and culture behaviors which are integrated into learning process.

Based on the conclusion above, it can be drawn the suggestion to the teachers should develop and add their knowledge about implementing socio-cultural based thematic learning, learning equipment development, and learning resources thorough KKG or the 2013 Curriculum seminar. The headmaster should motivate the teachers to be able developing and conducting socio-cultural based thematic learning way better, especially with the relation to the evaluation activity.

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THE DEVELOPMENT AND CHARACTERISTICS OF CREATIVE THINKING TESTS OF PHYSICS SUBJECT IN GRADE X SENIOR HIGH SCHOOL

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Abstract

This research aimed to make improvements of learning related to the assessment of physics learning by developing a Creative Thinking test. The stages of research included preparing the test content outline, writing the items, validating the items by experts, improving and preparing the two sets of Creative Thinking tests. The subjects of the research were 300 students of senior high school in Gunung Kidul Regency of Special Region of Yogyakarta, inter alia, Public Senior High School 1 of Patuk, Public Senior High School 2 of Playen, Public Senior High School 1 of Karangmojo, and Public Senior High School 1 of Wonosari. The items were validated by physicists and experts in physics education, producing Aiken's V index. The tests items scoring was using a polytomous scale of four categories and Partial Credit Model (PCM). Characteristics of the tests consisted of goodness of fit, reliability, and difficulty level of items. The research findings showed the instrument reliability of 0.71 with sufficient criterion. Guided by the highest and lowest limit criterion of INFIT MNSQ of 0.77 to 1.30 fit with PCM model as many as 65 items. Index of difficulty items was between -0.90 to 1.66, meaning that the items were in good category for the value was between -2.0 to 2.0. Based on the characteristic all of the tests were considered eligible to use to measure creative thinking abilities of students.

Keywords : Creative Thinking, Partial Credit Model (PCM), Politomus.

1. Introduction

Physics is assumed as a difficult, frightening subject (Angell, Guttersrud & Henriksen, 2007). This is because there are many mathematical equations in physics and students assume the mathematical equations must be memorized. The assumption does not rise itself, indeed. The approaches and methods used by teachers in teaching the concepts of physics as though emphasized that the concepts of physics are the collection of mathematical equations (Loviza, 2011). Most of the teaching of physics is performed by giving the questions and exercises, so that the students are more getting stuck on the discussion of the questions and less revealing the actual process.

Learning physics requires students to be active to improve the understanding of the concepts of physics. This is in accordance with the principles of constructivism, which knowledge is constructed by students themselves. Passive students cannot acquire the knowledge transferred by the teacher directly. The students who are active continuously will be able to acquire the knowledge, thus, there is always a change in concept to a more complex direction. Marilyn (2013) explains that teacher

only acts as a facilitator (providing facilities for students), a mentor (improving wrong understanding of students), a motivator (increasing the spirit of learning of students), and an innovator (triggering students to be creative with the models formed).

Evaluation and assessment are needed to monitor students' progress related to the learning. Evaluation and assessment can guide students to determine the change of more complex learning outcomes (Gardner, 2013). Assessment is an interrelated part of evaluation. Assessment is a process that is very important in the learning process (Binkley, 2012). Assessment can provide a picture of the extent to which the learning process has been achieved, thus a test as an assessment tool or instrument is necessary to determine the level of achievement.

Test is a planned measurement tool used by teachers to provide opportunities for students to show the achievement and its relation to the intended purpose (Cangelosi, 1995: 23). Furthermore, Scott (1993) explains the variation in developing the written test, namely, multiple choice, sentence completion, listing, true-false, matching, essay, and modified form. The tests used by teachers so far are not able to measure

the thinking abilities of students, one of which is the ability of creative thinking.

Multiple choice is a form of test often used. In general, the form of multiple choice questions has not been able to measure the ability of creative thinking of students. The development of Reasoning Multiple Choice is necessary to measure the ability of creative thinking. On the test, reasoning multiple choice questions requires students to think about the suitable reason for the answer selected. Therefore, the process of thinking directly determines the right reason, thus training the ability of creative thinking of students.

The abilities of creative thinking include the ability to see new possibilities then discover relationship among the different ideas and can reconstruct or find ways to solve the problem (Van Velsor et al, 2010). Its characteristics are: (1) Fluent: have lots of ideas and solutions; (2) Flexible: have many variations and alternative answers and be able to see the problem from different perspectives; (3) Original: have unique and unusual ideas; (3) Elaborate: adding details to the ideas got (Jill & Schirmacher, 2009). Each of the characteristics of the abilities of creative thinking have different indicators. Thus, the indicators of creative thinking include answering several questions with a number of facts, expressing ideas fluently, finding the error of an object, giving perspectives, thinking of ways of solving the problem, classifying things in different categories, solving new problems, looking for a deeper meaning to a solution to the problem, enriching the ideas of others, and trying to make something new.

Multiple choice test is more widely used than other forms of test. From the results of a preliminary survey by conducting interviews with senior high school physics teachers in Gunung Kidul Regency of Special Region of Yogyakarta, multiple choice test is commonly used both in midterm test and in final test. However in reality, the multiple-choice test used in senior high school in physics subject has not measured students' ability to think creatively.

The test results scoring is using dichotomous model, i.e., 1 score for correct item and 0 score for incorrect item. Fairer polytomous model has not been used because of the considerations of the steps to complete the test. This dichotomous scoring model has not appreciated the steps of completing the test, because a different error also generates the same score, namely, 0. Thus, this scoring model is certainly unfair.

Based on the description above, a reasoning multiple choice test named Creative Thinking Test is used to measure the ability to think creatively in physics. Therefore, the assessment instruments of the ability to think creatively consisting of tests and assessment guidelines as well as the characteristics of Creative Thinking Test need to be compiled.

2. Method

The development model used was Thiagarajan's 4-D (1974) which includes four stages, namely, Define, Design, Development, and Dissemination.



Figure 1. 4D Model

Define stage includes: (1) Determining the purpose of the test, (2) Determining the competency to be tested, (3) Determining the materials. Design stage includes: (1) Preparing the test content outline, (2) Writing the items. Development stage includes: (1) Validating the items of the test, (2) Improving and preparing the items of the test. Dissemination stage includes: (1) Determining the subjects of the test (senior high schools), (2) Conducting trial test.

This research used the subjects of trial test of four (4) senior high schools in Gunung Kidul Regency, namely, Public Senior High School 1 of Patuk, Public Senior High School 2 of Playen, Public Senior High School 1 of Karangmojo, and Public Senior High School 1 of Wonosari. The

number of subjects of the trial test used were 300 students.

The instruments of Creative Thinking test were validated by 2 physicists and 2 experts in physics education. All items of the test are valid if the Aiken's V index value is in the range of 0.37 to 1 (Kowsalya et al, 2012: 702).

$$V = \frac{s}{n(c-1)} \dots\dots\dots (1)$$

Notes:

V = Aiken's V index

n = the number of rater

s = the number of s of n rater

c = skor from rater

The reliability value of all instrument is in accordance with the interpretation of the reliability value with Rasch model.

The data analysis of this research was using Partial Credit Model (PCM) for fit testing of items of creative thinking ability test for physics

subject for senior high school. Which PCM was the development of Rasch model which is a 1-PL model. The data analysis was performed on several aspects, such as goodness of fit, reliability, and difficulty level of items.

Tabel 1. Distribution of Creative Thinking Test

Aspect	Sub Aspect	Indicator of Creative Thinking	Material			
			Elasticity and Hooke's Law	Static Fluid	Temperature & Heat	Optical Device
Fluency	Formulate Answers	Answering Questions with a number of facts.	2(1A,6B)	2(3A,8B)	2(4A,9B)	2(5A,10B)
	Express ideas	Current makes ideas / hypotheses	2(9A,14B)	2(10A,15B)	2(11A,16B)	2(12A,17B)
	Criticize an object	See the errors of an object	2(14A,19B)	2(13A,18B)	2(15A,20B)	2(16A,21B)
Flexybility	Interpreting.	Gives a point of view.	2(18A,23B)	2(17A,22B)	2(19A,24B)	2(20A,25B)
	Looking for Alternative answers	Think of ways of solving the problem.	-	2(21A,26B)	2(22A,27B)	-
	Categorize	Categorize things by different parts or categories	2(24A,1B)	2(25A,2B)	2(23A,28B)	2(24A,29B)
Originality	Plan new things.	Fixed a new issue.	-	1(26A,31B)*	2(33A,3B)	-
Elaboration	Solving Problems with detailed procedures	Looking deeper meaning about a problem	2(7A,12B)	-	1(30A,35B)*	1(25A,30B)*
		Develop ideas.	2(2A,7B)	2(6A,11B)	2(8A,13B)	1(34A,4B)*
	Testing.	Trying to create something new	1(29A,34B)*	2(35A,5B)	2(27A,32B)	2(28A,33B)

Note : *) ancor items

Table 1 describes the items distribution of Creative Thinking tests consisting of two sets, namely, set 1 is *Paket A* (Package A) and set 2 is *Paket B* (Package B) which each consisted of 35 items. Each test covering the materials of Elasticity and Hooke's Law, Static Fluid, Temperature & Heat, and Optical Device. Both test instruments have 5 anchor items.

3. Results

The results of this study show characteristics of creative thinking test to use to measure creative thinking abilities of students, such as

- The reliability of instruments of the research results was 0.71.
- The values of goodness of fit of all items were in the range of 0.84 to 1.14.
- The difficulty level per item or the difficulty value is -0.90 - 1.66.

Tabel 2. Results of Results Estimates Item and Testi in Creative Thinking Test

No	Information	Estimates item	Estimates Testi
1	Average value and standard deviation	$-0,01 \pm 0,66$	$-0,49 \pm 0,38$
2	Reliability	0,71	0,73
3	Average value and standard deviation INFIT MNSQ	$1,00 \pm 0,05$	$1,01 \pm 0,25$
4	Average value and standard deviation OUTFIT MNSQ	$1,04 \pm 0,26$	$1,06 \pm 0,66$
5	Average value and standard deviation INFIT t	$0,00 \pm 0,57$	$-0,10 \pm 1,11$
6	Average value and standard deviation OUTFIT t	$0,14 \pm 1,10$	$0,06 \pm 0,66$

4. Discussion

The responses and assessments of the two experts in physics education and two physicists generated Aiken's V index value of 0.72 of the 65 items of questions developed. The overall Aiken's V index per item of question was between 0.37 to 1.00, so that all the developed items of questions were considered valid by the physicists and experts in physics education. This was consistent with the interpretation steps taken (Kowsalya et al, 2012: 702).

The reliability of instruments of the research results was 0.71. The reliability value of all the instruments can be seen in Table 2. Thus, the reliability interpretation by 0.71 was said sufficient. This was in accordance with Rasch model, which the reliability value in the range of 0.67 to 0.80 is said quite reliable. So, these instruments can be used for research.

The findings obtained goodness of fit of all items of questions developed based on mean of INFIT Mean of Square (Mean of INFIT MNSQ) and its standard deviation or observing Mean of INFIT t and its standard deviation. If the mean of INFIT MNSQ is around 1.00 and its standard deviation is 0.00 or mean of INFIT t approaching 0.00 and its standard deviation is 1.00, then the entire test fits the 1 PL PCM model. The limit of the acceptance of items using infit MNSQ was between 0.77 to 1.30. The findings showed the values of goodness of fit of all items were in the range of 0.84 to 1.14. All items fitted because they were in between the two limit lines of goodness of fit.

These findings concluded that the items developed fitted the Partial Credit Model (PCM), in accordance with the theory developed by Adam & Khoo (1996: 30) and were valid based on empirical test with the Distribution Goodness of Fit by INFIT MNSQ 65 Items of Questions About Creative Thinking in the range from 0.77 to 1.30. The criteria of items were considered valid (fit) by seeing the criteria (Sumintono & Widhiarso, 2009: 115).

The difficulty level per item or the difficulty value is the difficulty level per

category of the answers of students. An item is considered good if the difficulty index is more than -2.0 or less than 2.0 which can be expressed by $(-2.0 < b < 2.0)$. The calculation results of the difficulty level of 65 items of questions about Creative Thinking in two packages of questions developed showed a good value, that was in between the range of -0.90 - 1.66 categorized high medium low. It was in accordance with the theory of Hamleton & Swaminathan (1985: 107), that a difficulty level is considered good if it is between -2.0 and +2.0.

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DEVELOPMENT SEMESTER LEARNING PLAN (RPS) AND TEACHING UNIT CLASS (SAP) SYNTAX BASED PROBLEM BASED LEARNING (PBL)

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Abstract

This research is motivated by the limited ability of students to understand the learning materials syntax Indonesian in Language Study Program and Literature Indonesia. One strategy is to use PBL faculty. PBL is used to allow students to solve problems in everyday environments with subjects linked to the Indonesian Syntax. Therefore, the lecturers were very large role in developing Semester Learning Plan (RPS) and Teaching Unit Class (SAP) syntax. One way that can be used lecturer is to provide a syntax-based SAP RPS and Problem Based Learning (PBL). This study aims to describe the development of RPS and SAP-based PBL valid syntax, practical, and effective for use in the learning process in the course of Syntax Indonesian.

This type of research is the development model. Test samples in this study is the semester students of four (IV) courses of study Indonesian language and literature education STKIP PGRI West Sumatra took a course of syntax. The instrument used was the instrument validity, practicality and effectiveness. Data obtained through the instrument analyzed qualitatively and quantitatively. The initial analysis we concluded that students need a learning device designed by RPS and SAP-based PBL learning syntax. The results of this study are prodak ie learning device consisting of RPS and SAP courses Indonesian syntax based PBL.

Keywords: Semester Learning Plan (RPS), Teaching Unit Class (SAP), Problem Based Learning (PBL)

1. Introduction

Syntax is studied by the students of Indonesian Language and Literature Education Study Program in the fourth semester with the requirement that they have passed the general linguistic introduction course in the first semester, phonology in the second semester and morphology in the third semester. Syntax is a compulsory course for students with BIND80047 code. This lecture contains a discussion of syntactical understanding and its relationship with other language study subsystems, phrase structure characteristics; Clause; And sentences, analyzing the types of phrases; Clause; And sentence based on certain point of view and apply it in research and teaching Indonesian language.

Based on the observation and learning process that was implemented it was difficult for students to understand the syntactic concepts. Syntactic learning process has not been done well. This is influenced by the following aspects. (1) The learning process is conducted by way of discussion, students are instructed to write group papers. In the process of making papers, students are involved only one or two people and only use one or two sources. (2) Students use one or two

references when not all the material that must be mastered by students is contained in the reference. (3) When lecturers provide reinforcement during lecture not all students can absorb well because of lack of motivation of students to read other references that contain syntactic material. (4) When asked to analyze the sentence, the student seems to understand what is described by example. However, when told to analyze the sentence they have difficulty. This proves the students do not understand the concept of syntax.

Problems like this will certainly have an impact on the students. Students will not be able to understand the concept of syntax let alone use the syntax concept in planning research and teaching in school. Therefore, lecturers should be able to plan and implement quality learning process so that students can understand the syntactic concepts. Lecturers can use learning methods that are more varied than the method of discussion in the learning process. Lecturers can develop learning device by using complete resources that contain all learning materials that must be mastered by students. Lecturers can use resources and learning materials that are close

and often encountered by students in their daily academic environment.

Based on the literature revision, the Semester Learning Plan (RPS) and Teaching Unit Class (SAP) used by the students have been incomplete and interesting since the competencies to be achieved in RPS and SAP are not in accordance with the standard of teaching syntax teaching Indonesian. In it only described the conventionally delivered learning materials. This method makes students not challenged to learn mastering the science of syntax.

One of the learning models that lecturers can use is the Problem Based Learning model (hereinafter abbreviated and written PBL). PBL is a learning model that aims to assist students in developing the ability to think and solve problems. Students can learn by getting involved in the real experiences they encounter in everyday life. When done with the syntactic learning process then the problems found in everyday life are associated with syntactic concepts. Therefore, the lecturers need to arrange the device in the form of Semester Learning Plan (RPS) and Teaching Teaching Unit (SAP) of PBL-based learning is to assist students in the process of understanding the concept of syntax. The application of PBL in the development of RPS and SAP learning is assumed to help students understand the concept of syntax and can apply the concept in everyday life.

Based on the above, it is necessary to do this research to develop RPS and SAP based Problem Based Learning (PBL).

This research was formulated to describe the development of Semester Learning Plan (RPS) and Teaching Unit Class (SAP) of PBL based learning. Relevant theories as the basis and reference in conducting this research include the syntactic nature, the nature of the PBL, and the learning device (RPS and SAP).

The Nature of Syntax

Syntactically etymologically comes from the Greek word *sun* meaning 'with' and *tattein* which means 'put'. Thus, the syntax based on the two terms means putting together words into groups of words. In Dutch the term *syntaxis* is used which means 'to organize together'. In English the term *syntax* is used which means 'sentence'. Verhaar says syntax is the science of language that investigates all interrelationships and between groups of words (phrases) in the basic unit of the sentence. Thus, it can be concluded that syntax is one of the branches of linguistics that studies the ins and outs of the formation of sentences with the word being the base, the combination of words forming phrases,

combining phrases into clauses, and combining clauses to form sentences.

The Nature of Problem Based Learning (PBL)

Relevant theories related to the nature of the PBL include the definition of PBL, PBL characteristics, and PBL measures.

Understanding PBL

According to Fogarty (1997: 2) PBL is described below.

Problem based learning is a curriculum model design around real life problem that is ill structured, open ended, or ambiguous. An ill structured problem is fuzzy, unclear, or not yet identified. It is often a situation that is a confusing and complex, with a number of interrelated concerns. The problem may only be sensed at first. It is not fully delineated. For Example, students to teachers may sense that there is a problem on the playground at lunchtime. However, they do not know exactly what the problem is

Fogarty states that PBL is a curriculum designed to solve real-life problems in a structured, open, and still needs to be resolved. A structured problem that is still vague, unclear, or unidentified yet creates an interconnected situation. The problem can only be felt in the beginning. The problem is not fully illustrated. For example, students feel there is a problem at rest, but they do not know the problem. Sanjaya (2008) said that PBL is a series of learning activities that emphasize the process of solving problems scientifically. PBL is also a learning by exposing students to practical problems as a foothold in learning so that students learn through problems.

Thus, PBL is a learning strategy that can make student-centered learning. They can use their thinking ability to solve problems more openly. This is because the PBL requires students to be more active in participating in solving problems close to them.

Characteristics of PBL

Sanjaya (2008: 214) pointed out that there are three main characteristics of PBL strategy: (A) PBL strategy is a series of learning activities, there are a number of activities that must be done by students. (B) Learning activities are directed at solving problems. (C) Problem solving is done by using a scientific thinking approach. Thus, the

characteristics of PBL begin with the application of real problems close to the student. Students are required to think creatively in solving such problems and report their work in front of the class.

Steps PBL

According to Fogarty (Wena, 2009: 92) the PBL measures are finding problems, identifying problems, collecting facts, preparing hypotheses, conducting investigations, refining defined problems, concluding collaborative solutions, and testing outcomes (Solution) troubleshooting. Ibrahim (2000: 24) says that the PBL consists of five stages: student orientation on issues, organizing students to learn, guiding individual inquiry, developing and presenting the work, and analyzing and classifying problem-solving processes.

Learning Device

Relevant theories relating to instructional device include the definition of learning device and learning device components, the development of learning device based on PBL syntax, and assessment of learning device.

Understanding Learning Device

Learning device are all device and materials used by lecturers to support the smoothness and implementation of learning.

Components of Learning Device

Learning device consist of SAP, RPS, teaching materials and assessment.

SAP

SAP contains components of competency standards, basic competencies, competency indicators, lecture materials, and descriptions, learning experiences (learning strategies), media / learning device, assessment systems, and references. SAP is a projection of activities or activities to be undertaken by lecturers in lectures. The preparation and development of the syllabus is an integral part of the development of the curricula.

RPS

RPS or Semester Learning Plan (RPS) is a learning process planning document to achieve the output of quality learning process. This is due to the implementation of RPS consistently can create a conducive academic atmosphere so that the excitement arises in the learning process. In addition, RPS is the preparation of lecturers to teach and to arouse students' independence in learning. RPS contains the main pillars of

learning, which are real problems, links to other disciplines, international insights, the use of information and communication technologies, creativity, innovation, and leadership.

Teaching Materials

Depdiknas (2008: 6) explains that teaching materials are all forms of materials used to help teachers in carrying out teaching and learning activities. The teaching materials in question can be either written materials or unwritten materials. Teaching materials classified as printed materials are handouts, books, modules, student worksheets, posters, brochures, leaflets, wallcharts, and photos/pictures. Teaching materials that can be developed by lecturers in the learning process is a module.

Assessment

Atmazaki (2013: 17) states that assessment is an effort to collect data and facts to make decisions in learning. Assessment is always associated with the purpose of learning so that after making an assessment can be stated whether a learning process has reached the goal or not. Assessment can be done by conducting tests. Good tests must meet valid, reliable, thorough, and practical requirements. The validity of the test includes the validity of the content, the validity of the size, the validity of the dish, the validity of the concept, and the validity of the display. The test should be done thoroughly, the test is made taking into account all aspects of the material to be tested. The test is said to be practical when it is economical, easy to scratch, and easily interpreted.

2. Method

This research type is research of development with 4D model (define, design, developed, disseminate), that is defining, designing, developing, spreading. Objects developed are syntax learning device consisting of RPS, SAP, teaching materials, and assessment. In this paper is limited to the defining stages of learning devices in the form of RPS and SAP.

Development Procedures

This study aims to develop learning device in the form of RPS and SAP syntax based on PBL. The development stages are done in this first stage of the new phase of analysis with the following procedure. The first stage, the analysis phase, at this stage the need to analyze RPS and SAP Syntax Indonesian students STKIP PGRI West Sumatra and analyze the problems

contained in it. Processes performed as barikut; A) Analyze the RPS for the purpose of knowing whether the material taught is in accordance with the applicant's standard of competence, b) to analyze SAP in order to know the accuracy of the material with the standard of subject competency, c) to see references that are appropriate to the development of syntactical science.

Test Subject

The test subjects in this study are students of the fourth semester of the Indonesian language and literature education program STKIP PGRI West Sumatera who take the Indonesian language syntax.

Research Instruments

The instrument used to collect data of this research is.

- a) Instruments of validity
 - a. RPS validation sheet
 - b. SAP validation sheet
 - c. Instrument validation sheet
- b) Instrument of practicality
 - a. Observation sheet of the implementation of RPS
 - b. Questionnaire student response to SAP
- c) Instrument effectiveness
 - a. Observation sheet of student activity
 - b. Test the learning outcomes

3. Discussion

Development of RPS and SAP syntax based on PBL. The first stage is the analysis phase. The results obtained from this stage are.

Semester Learning Plan Analysis (RPS) and Teaching Lecture Unit (SAP) course Syntax

Analysis of RPS and SAP is done to see the material that has been taught has been in accordance with the standard of competence. The standard of syntactic subject competence is the syntactical definition and its relation to other language study subsystems, phrase structure characteristics; Clause; And sentences, analyzing the types of phrases; Clause; And sentence based on certain point of view and apply it in research and teaching Indonesian language. From these results obtained that the existing material in the RPS and SAP has been in accordance with the competence that must be achieved by students.

Interviews with Friends

Interview with colleagues conducted on March 25, 2017 aims to determine the problems encountered during the learning process on syntactic material. Based on the interviews, the following information is obtained. In the sentence function material, determine the sentence pattern. Students difficulties understand about the sentence one of them determine the sentence pattern of the subject, predicate, object and description. If a sentence belongs to a short category they can still determine it. However, if the sentence structure has been changed and randomized its form, the students find it difficult. This is because the students only focus on the mastery of examples only. And can not analyze it appropriately.

Questionnaire Student needs

Questionnaire is aimed to know the needs of students to their understanding of the materials that will be taught each time face to face that is during 16 times a meeting for a semester that is dirancang in RPS and SAP.

Table 1. Result of Student Needs Questionnaire

No	Question	Answer Student	Percentag
1	Do you like the syntax course?	Likes	85%
2	Does it matter to you the syntactic course?	Important	81%
3	How is the teaching material material designed in the RPS and is it in accordance with the PBM process undertaken?	Already	76%
4	How is syntactic RPS used, is it using a learning model?	Not	98%
5	Agreed you if our syntactic RPS is designed using PBL based learning model	agrees	100%
6	Which matched material is designed in RPS using a PBL-based learning model?	All material that is in accordance with the capability	75%
7	Do you know the steps to use PBL in syntax learning process	No	52%

No	Question	Answer Student	Percentag
8	Do we need to mention steps using PBL-based learning methods in syntactic learning on RPS?	Need	90%
9	If you like what material syntax learning is best understood?	Phrases and clauses	80%
10	What do you think is the elusive material of syntactic learning?	Sentence, determining the sentence pattern	70%
11	How do you think of the learning resources used in syntactic learning?	Withdraw	90%
12	What should you do to easily understand syntactic material?	More to understand the material and read other references	73%
13	What kind of problems do you easily understand in syntactic learning?	Describe the steps in a coherent and easily understood	78%
14	How do you think the best way to describe the material?	Brief, clear, solid and easily understood	95%
15	Is it necessary to explain the nature of syntax and its relation to science?	Need	93%
16	Do you think the tips are being made to make it easier to understand syntactic learning?	More work on exercises that match the syntactic material	82%
17	How do you think syntax lectures are conducted by lecturers in the classroom?	Very fun and not stressful	87%
18	Are syntactic learning materials being sought by themselves or provided with lecturers?	Provided lecturer	100%
19	If provided by the lecturer how do you think about the resource?	Teaching materials are compatible with RPS and easy to understand	88%
20	In general, do you think the teaching materials can or should be a textbook?	Worth	100%

From the table above, it can be concluded that 100% students agree if syntactical RPS is designed using PBL model, then 100% also mahaiswa answer agree if the teaching material is provided by the lecturer and deserve to be a textbook. Explain the material in the learning process students answer should be short, clear, solid and easily understood 95%. To explain the steps to use PBL in learning syntax students answer 90% need to be interesting in the learning process. So, based on the questionnaire needs of students above 88% of students answer the material is matched with the RPS provided lecturers and 100% of students answer the teaching material is worthy of a textbook.

Textbook Analysis

A textbook designed and developed aims to help students understand the material in syntax lectures. Textbooks that have been used are not used maximally by students. Students are more likely to record what the lecturers say. His textbooks were not studied and even not read. In addition to syntactic textbooks, syntactic textbooks that have not existed have made

students interested to understand them, so that students are less participating in the syntax learning process in the classroom.

Review Literature of Textbook and RPS with PBL Method

The RPS used by the students is incomplete, because the basic competency to be achieved in the RPS is less in line with the syntactic teaching curriculum already used in universities. RPS and SAP used by students have been less suitable with college competency standards and have not used PBL-based learning methods. Furthermore, the SAP has not clearly explained the activities of lecturers and student activities and does not use PBL-based learning methods.

Based on these findings and analysis, the RPS and SAP PBL-based Syntax Designs are designed. With this the students are more clear and easy in understanding matere-syntax learning materials by using PBL-based methods. RPS given to students by lecturers make it easier for students to understand the materials they will learn because they have been loaded directly by

using PBL method. And so is the SAP designed by lecturers to facilitate the lecturers in undergoing activities or learning process, because it has been described the stages of PBL method. Thus, learning of PBL-based syntax is very helpful for lecturers and students in understanding syntactic materials.

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MODEL LOGIC EVALUATION OF AKIDAH AND AKHLAK SUBJECT IN STATE MADRASAH TSANAWIYAH BANYUMAS REGENCY

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Abstract

This study aimed to valuate an akidah (Islamic doctrine and beliefs) and akhlak (Islamic morals) subject matter of State Madrasah Tsanawiyah (MTsN) utilize an evaluation model, i.e. Logic model. A logic model is a systematic and visual way to present and share understanding of the relationships among the resources program have to operate, activities plan, and the changes or results to achieve. The subjects of this research determined by simple random sampling and then, those subjects are taken randomly. For the data analysis, the researcher made use of questionnaire and test and analysis technique utilized Confirmatory Factor Analysis (CFA), Structural Equation Modeling/SEM version 8:51. The conclusions of this study are that: (a) it's sequently, the four exogenous variables gave contribution to an Islamic doctrine (aqidah) and Islamic morals (akhlak) subject matter of State Madrasah Tsanawiyah (MTsN), i.e.: learning facilities (0.349), learning material and method (0.232), teacher performance (0.228), class and madrasah culture (0.216); (b) Variabel of an Islamic doctrine and beliefs (aqidah) and Islamic morals (akhlak) learning gave contribution (15.3 %) to students' motivation changes in akidah akhlak learning participation; (c) Variable of students' motivation changes in akidah akhlak learning participation gave contribution (11.9 %) to akidah akhlak performance of students.

Keywords: *aqidah akhlak learning*, Madrasah Tsanawiyah, logic model evaluation

1. Introduction

According to Mastuhu (1999, p.59) that the learning in the madrasah had several weaknesses as follows: (1) the learning process has put more emphasis on the learning materials; (2) the learning process has put more emphasis on the memory upon the analysis and the dialogue; (3) the learning process has put more emphasis on the strengthening of the "left brain" than that of the "right brain"; (4) the distributed learning materials have been traditional and have not touched the rational aspects; (5) the learning materials have put more emphasis on the science as a final product rather than on the methodological process; and (6) the learning process has put more emphasis on the orientation of "possessing" than that of "becoming."

Similarly, Darodjat, Zuchdi, and Zamroni (2016, p.13) stated that the learning in the madrasah has also a weaknesses, especially in the aspects of method, the active, innovative, creative and interesting learning has not been implemented in the learning process of akidah and akhlak. The learning materials for the subject are still based on the indoctrinative materials and the contents of these materials are limited to the normative-theocentric one. Such conditions

certainly weaken the establishment of learning participants' noble characteristics and attitudes. Psychologically, the learning participants in the Madrasah Tsanawiyah are in the age of juveniles. In this age, the learning participants are at the edge of their developmental period because the age of juveniles is a transition time between the childhood and the adulthood. Within the transition period, the learning participants grow quickly both in terms of physics and of mental and the quick growth covers the aspects of body shape, attitude, way of thinking and way of acting. The learning participants are not children anymore. Unfortunately, they may not be considered as adults yet because they have not reached the maturity in terms of paradigm.

In order to improve the use of indoctrinative method implemented in the Akidah Akhlak learning, Zuchdi (2010, p.6) explains that in case the use of indoctrinative method might not be avoided several ways should be performed in order to improve the use of indoctrinative method and some of the ways would be as follows: (1) the school altogether with the overall components should create a social setting that enables the implementation of the knowledge they have attained in order to solve the problems that the society encounters; and (2) the learning

participants should be stimulated or be facilitated in order that they find the reasons that underlie their moral decisions. Thereby, the education implemented in the middle of the society, including the madrasah, will be more effective so that the learning participants will attain the noble characteristics, the complete personality and the humanistic attitude.

Teaching of akidah and akhlak (Islamic doctrine-beliefs and morals) is a essential matter to give Muslims young generations convincing answers to these world modern challengers. According to Noh and Kasim (2012) the main objective of teaching Islamic theology should be to reinforce our young Muslims with the intellectual and spiritual weapons that can stand to the onslaught of western ethical globalization. Thus, the greater challenge to Islamic doctrine and beliefs (aqidah) at present is no longer revolving around the theological differences of the past but rather around ideological challenges advocated by western thought such as, positivism, secular humanism, liberalism and post-modernism. Furthermore, the learning of Akidah Akhlak has a big role for the process of saving the critical times that the juveniles experience and of developing the self-potentials that the juveniles have altogether in the same time.

The Akidah that believes the existence of Allah the Almighty as its core might serve as the supporting and the directing factor in order that all of the activities and the prayers, in their wider sense, are done only for finding the blessings of Allah the Almighty (Letter of al-Annam: 162). The learning students who have already had the proper and the well-established akidah will sense that wherever they go they will always be overviewed by Allah the Almighty. Such Akidah teaches that Allah the Almighty will always listed and see every movement of His creations (Letter of Yunus; 61; Letter of al-Baqarah: 129) because Allah owns the Highest Perfection of all creations (Letter of ar-Rahman: 27). On the other hand, the akhlak as an incarnation of well-established faith in themselves will become the motivator and foundation for actualizing the faith within their way of thinking, behaving and acting within the search of His blessings.

Many studies of human learning (also in this case is learning on akidah akhlak) have shown that motivation is a key to learning. Psychologists also consider motivation as one of the major determinants of academic achievement and work productivity. (Keller, 1987). Motivation is the most frequently used explanation for success or failure in completing any complex task and has been considered a

pivotal concept in most theories of learning. Keller believed that external conditions could be successfully constructed to facilitate and increase learner motivation. Based on this notion, Keller (1984, 1987) integrated several learning theories and developed the ARCS (Attention, Relevance, Confidence, and Satisfaction) model.

Teaching of akidah and akhlak in Madrasah Tsanawiyah should be evaluated in accordance with the Minister of Religious Affairs Regulation Number 2 Year 2008, especially on item (6) to teach the information, the knowledge, the system and the functionality of faith and akhlak. Evaluation in this context use a logical model, include if-then relationship, the input, the process, and the output of the learning (Porteous, et al. 2002).

The objectives of the research, then, are as follows: (1) to generate a valid and reliable learning evaluation instrument in order to evaluate the Akidah Akhlak learning in the state madrasah tsanawiyah; (2) to know some relationships among input, activities, and output or changes of akidah akhlak learning in State Madrasah Tsanawiyah. These relationships also called as logic model evaluation (Kellog, 2004). The second objective of implementing the CFA method was to identify the instrument dimension, to test whether the dimension might be confirmed and to identify the appropriateness between the actual and the empirical data.

2. Method

The experiment was designed in order to attain the complete data that might be used as the materials for revising the product that would be generated. The experiment was conducted in two phases: (1) sample experiment, 50 learning participants; and (2) sample experiment, 255 learning participants.

The study was a research on Akidah Akhlak learning evaluation, used a logical model. The focus of the research emphasized on four components, namely: input, activities, and output, utilized quantitative method. The results provided by the data gathering instrument with the learning participants as the respondents would be analyzed by means of Confirmatory Factor Analysis (CFA). There were several objectives of implementing the CFA method. The first objective was to analyze the validity of data gathering instrument. If the items for the index of factor loading (λ) > 0.30, then the instrument would be considered valid because the items might explain the existing construct or variable. On the other hand, if the items for the

index of factor loading (λ) < 0.30, then the items should be eliminated (Fernandes, 1984, p.28).

3. Results

In the first field testing, there were two prominent characteristics namely: (a) the subjects would be focused to the learning participants, in this case the students, because the keyword in the components of second logic model was the activities related to the students; (b) the number of the students who were involved in the field testing was 50 students of 8th grade from three state madrasah tsanawiyah. Based on the results analysis by means of SPSS for Windows 16.00, the researcher was able to attain the index. The parameter that would be implemented for finding the reliability was the values of Cronbach Alpha in each of output table. According to Nunally (1981, p.230), if the Alpha

Index would be bigger than 0.70 then the instrument might be considered reliable.

By means of Confirmatory Factor Analysis or CFA method, the research was also able to find whether each of the indicators that had been estimated would be valid or not in measuring the concepts under the test. In other words, the researchers would pay attention to the values of factor loading. In the next phase, the researcher performed a model test. A model would be considered fit if the model met the following requirements. First, the Chi Square resulted from the testing had probability (p) bigger than 0.050 ($p > 0.050$). Second, the GFI should be between 0 and 1. The value of GFI should be bigger than 0.900 ($GFI > 0.900$) and the score would show a good model fitness. Third, the Root Mean Square of Approximation (RMSEA) < 0.050. RMSEA > 0.100 showed that the model had not been fit.

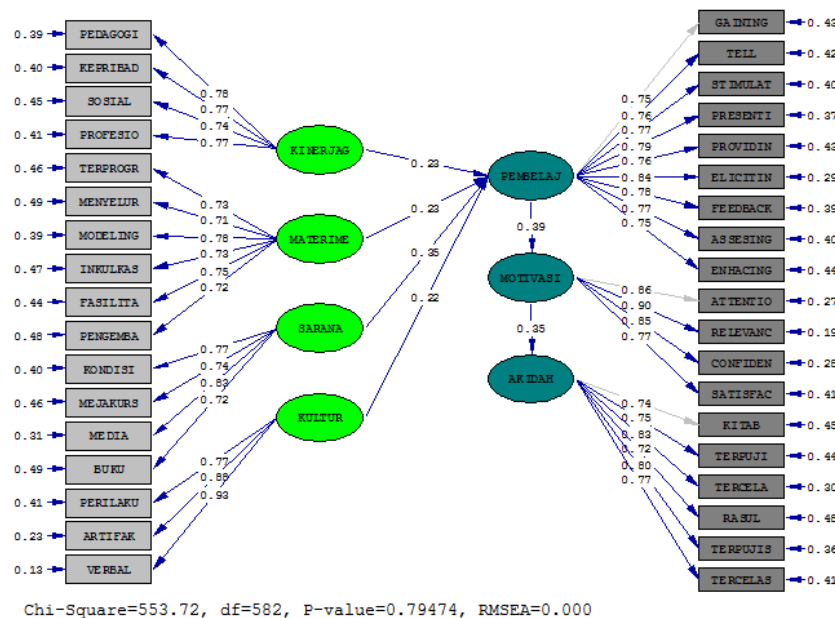


Figure 1 showed the empirical model as a result of SEM analysis.

Teacher Performance Measurement

The test of performance measurement model should be conducted as a latent variable and the test would be conducted to the pedagogical, attitudinal, social and professional aspect as the apparent variables. Therefore, the scores of apparent variable in the model of Akidah Akhlak teacher performance measurement were the composite scores from the measurement model of each teacher performance aspect. In order to test the fitness between the hypothetical model and the empirical data, the researcher performed an analysis based on the five indicators namely: (1) all of the variables

had factor loading (λ) > 0.300; (2) the Chi-Square = 5.30; (3) the GFI = 0.892; (4) the RMSEA = 0.081; and (5) the p-value = 0.07083.

Materials and Methods Measurement

Next, the researcher performed a testing toward the measurement model for the learning materials and the learning methods as the latent variables and each of the learning material and the learning model consisted of the following apparent variables: programming, encompassing, modeling, inculcating, facilitating and developing the academic and the social skills. Therefore, the scores of apparent

variables in the Akidah Akhlak Learning Materials and Learning Methods were the composite scores from the measurement model of each aspect in the learning materials and the learning methods.

There were five indicators that might be made as the guidelines for testing the fitness between the hypothetical model and the empirical model. The indicators were as follows: (1) all of the variables had factor loading (λ) > 0.300; (2) the Chi-Square = 23.980; (3) the GFI = 0.969; (4) the RMSEA = 0.081; and (5) the p-value = 0.00434. Based on the results of analysis by means of Lisrel toward the instrument of Akidah Akhlak Learning Materials and Learning Methods, the researcher found that the factor loading (λ) > 0.300 with the following details: programming = 0.72; encompassing = 0.72; modeling = 0.78; inculcating = 0.72; facilitating = 0.75; and developing the academic and the social skills = 0.72. Thereby, the measurement model had been fit for gathering the data regarding the Akidah Akhlak Learning Materials and Learning Methods.

Learning Facility Measurement

The researcher performed a test toward the learning facilities of Akidah Akhlak as the variable latent and each of the latent variables consisted of the following apparent variables namely: classroom condition, table-chair availability, learning media and learning textbook availability. Therefore, the scores of apparent variables in the measurement model were the composite scores. Then, in order to test the fitness between the model and the empirical data there were five indicators that would be made as the guidelines namely: (1) all of the apparent variables had factor loading (λ) > 0.300; (2) the Chi-Square = 1.93; (3) the GFI = 0.996; (4) the RMSEA = 0.000; and (5) the p-value = 0.381. Thereby, the measurement model had been fit for gathering the data regarding the Learning Facility.

Madrasah Culture Measurement

The researcher performed a test toward the Madrasah Culture as a latent variable and the test consisted of the following apparent variables namely: behavioral culture, artifact and verbal message. Therefore, the scores of apparent variables in the measurement model of Madrasah Culture were the composite scores from the model of each Madrasah Culture.

Gamma (λ) Parameter

The gamma parameter was a direct influence from the exogenous variables toward

the endogenous variables. Based on the output, the researcher found that the value of first standardized gamma parameter estimation = 0.228 as the direct effect from the Akidah Akhlak teacher performance toward the Akidah Akhlak learning, the value of second standardized gamma parameter estimation = 0.232 as the direct effect from the Akidah Akhlak learning materials and learning methods toward the Akidah Akhlak learning and the value of third standardized gamma parameter estimation = 0.349 as the direct effect from the Akidah Akhlak learning facility toward the Akidah Akhlak learning and the value of fourth standardized gamma parameter estimation = 0.216 as the direct effect from the madrasah culture toward the Akidah Akhlak learning.

Beta (β) Parameter

The beta parameter explained the size of the influence between the endogenous variables. The columns showed the independent endogenous variables and the cell showed the dependent endogenous variables. From these outputs, the researcher found that the value of standardized influence between the Akidah Akhlak learning and the changes of motivation was 0.391, the value of standardized influence between the Akidah Akhlak learning and the Akidah Akhlak behavior was 0.345 and the value of standardized influence between changes of motivation in attending the Akidah Akhlak and the changes of learning participants' Akidah Akhlak behavior was 0.345. The influence of Akidah Akhlak learning toward the Akidah Akhlak behavior was insignificant; however, the influence of Akidah Akhlak learning toward the Akidah Akhlak behaviors through the changes of motivation was significant.

Zeta (ξ)

The zeta parameter was an estimation of measurement errors that had been standardized in the endogenous latent variables. Consecutively, the error variance in the endogenous variables above were as follows: the error variance for the Akidah Akhlak learning was 0.502; the error variance for the changes of motivation was 0.847; and the error variance for the Akidah Akhlak behavior was 0.881.

Total & Indirect Effect

The coefficient for the influence of the teacher performance toward the Akidah Akhlak learning was 0.228, while the error value was 0.061. If the score 0.228 would be divided by the error value (0.061), then the researcher would have the following t-count: 3.728. As a result, there was a significant positive influence between the Akidah Akhlak teacher performance

and the Akidah Akhlak learning because the attained t-count (3.728) was much bigger than the t-table (1.960) under the significance rate 5% ($3.728 > 1.960$). Respectively, the t-values for each aspect would be as follows: materials and methods (3.856); learning facilities (5.437); and classroom and madrasah culture (3.727). All of these aspects had significant and positive influence toward the Akidah Akhlak learning because the attained t-value was bigger than the t-table (1.960).

Akidah Akhlak teacher performance, Akidah Akhlak learning materials and learning methods, Akidah Akhlak learning facilities and classroom and madrasah culture had total influence toward the changes of learning participants' motivation positively and significantly because t-count values were bigger than the t-table values (2.739; 2.789; 3.242; and $2.739 > 1.960$). In addition, the Akidah Akhlak teacher performance, the Akidah Akhlak learning materials and learning methods, the Akidah Akhlak facilities and the classroom and the madrasah culture had total influence toward the changes of learning participants' Akidah Akhlak behaviors in the madrasah environment positively and significantly because the t-count values were bigger than the t-table values (3.231; 3.312; 4.163; and $3.230 > 1.960$).

The Akidah Akhlak teacher performance, the Akidah Akhlak learning materials and learning methods, the Akhlak and Akidah learning facilities and the classroom and the madrasah culture had indirect influence toward the changes of learning participants' motivation and positively and significantly because the t-count values were bigger than the t-table values (3.201; 3.350; 4.166; $3.321 > 1.960$). Similarly, the Akidah Akhlak teacher performance, the Akidah Akhlak learning materials and learning methods, the Akhlak and Akidah learning facilities and the classroom and the madrasah culture had indirect influence toward the changes of learning participants' behaviors in implementing the Akhlak and Akidah values positively and significantly because the t-count values were bigger than the t-table values (2.739; 2.789; 3.242; and $2.739 > 1.960$).

The coefficient of total influence from the Akidah Akhlak learning toward the changes of motivation was 0.391 and toward the changes of behaviors in implementing the Akidah Akhlak values was 0.135. On the other hand, the coefficient of total influence from the changes of motivation toward the changes of behaviors in implementing the Akidah Akhlak values within the madrasah environment was 0.345. The total influence from the Akidah Akhlak learning

toward the changes of motivation and the changes of behaviors in implementing the Akidah Akhlak values was positive and significant, because the t-count coefficient were bigger than the t-table coefficient (5.738; 3.840; $4.951 > 1.960$).

The coefficient of indirect influence from the Akidah Akhlak learning toward the changes of learning participants' behavior in implementing the Akidah Akhlak values was 0.135 and the indirect influence was positive and significant. The reason was that the t-count coefficient (3.840) was bigger than the t-table coefficient (1.960).

4. Discussion

The results of data analyses showed positive findings in the testing of the research. The findings include:

- a. The logical model had been empirically tested and the researcher had attained a fit model that met the indicators from the Chi-Square and $p > 0.05$, and
- b. The influence of Akidah Akhlak learning toward the changes of motivation was significant. However, the influence of Akidah Akhlak learning toward the changes of behaviors in implementing the Akidah Akhlak values through the changes of motivation was insignificant.

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THE DEVELOPMENT OF LEARNING MATERIALS BASED ON LOCAL WISDOM PAINTING OF 4TH GRADE STUDENTS IN ELEMENTARY SCHOOL

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Abstract

This study aims to develop learning materials to paint the insights of local knowledge of 4th Grade students in Elementary School. The methods of the research based on the researchs and developing by Borg and Gall. The Material of learning consisti of local wisdom in Klaten district which cover of field of tourism, culture, handicrafts, and culinary which are integrated with teaching materials. The results of the scientist research shows that the characteristic of teaching materials paint has a conception of local wisdom is valid and very feasible to use. The characteristics of teaching materials by paint with local wisdom consisting of hand on and mind on activities, discussions, and practice questions. The catagories of teaching materials by painting local wisdom from teachers' respons is very good on physical appearance aspects. The students' responses of teaching materials by painting with local wisdom is very good category. The highest score is on aspects of physical display of teaching materials.

Keywords: learning materials, painting, local wisdom

1. Introduction

Painting in education is not something that is only formed from talent alone, a lot of painting lessons that initially only often practice but finally students can paint well even follow the race and get the champion, as stated by Pamadhi (2009: 11.8) art is a human spiritual activity that reflects reality (reality) in a work which thanks to its form and content has the power to evoke certain experiences in the recipient's spiritual realm.

Indeed someone who has a talent can be easier to become a master of painting. But if the talent is not honed properly, then the results also can not be maximized. In contrast to someone who has an enormous interest despite a very minimal talent, he or she can become more expert than the example given.

In education, especially primary school level, education directed by parents to their children need to pay attention of their problems related to psychological needs to developed of intelligence, emotional and motivation, and developing of children's creativity. As revealed by Munandar (2009: 9) Context of human resource development, education of children. Especially the education of Primary School children should be done through the provision of educational stimuli to form optimal growth and development. Actualized abilities move from the functioning of the child's brain.

Painting requires a wide range of thoughts and also different from ordinary things or can be said out of everyday life, in expressing art in different life there are several ways expressed such as in drawing, painting, forming one thing, or making a pile of ideas through space The narrow. It is as expressed Jordan E. Ayan (2002: 182) the power of art comes partly from his ability to bring us out of everyday life. The arts push us to think in a whole new way. Visual art uses images, shapes, colors, and space to convey a stack of ideas through a narrow space and in a short time.

According to Jordan E. Ayan (2002: 186) Scratching is an art form which has formed. However, although it only consists of simple shapeless lines, scratching is a great technique for letting go of self-criticism, and giving hands free to draw whatever it takes. With the child's actual abilities, techniques for generating children's character values are necessary in painting materials on SBK learning, therefore doodling needs to be improved for students' emotionality.

At this time the learning of Cultural Arts and Skills in SD / MI received less attention. This occurs for several reasons, including: (1) SBK is not one of the lessons tested nationally, so it is not very important to be taught; (2) Not all teachers have the maximum ability to teach SBK learning, especially drawing materials with form drawing materials also have advantages as a

basis for developing students' cognitive, affective, and psychomotor aspects.

The facilities lesson in the classroom of teaching are still lacking, such as drawing facilities using crayons, watercolors, brushes, or other materials that support painting materials on SBK learning and this is also experienced in SD N 2 Pugeran, Pedan Subdistrict, Klaten District is better and Impressed by students so that students experience of their creativity.

The material taught to learners tends to be monotonous and non-varied, painting material with crayons with natural theme, school theme, God-created theme, but the teacher give the material to the learners by spontant, so the material taught is less fun, but there will be differences if there are guidelines for Teaching and also briefing that can help teachers to prepare materials and steps in learning proceses, and they will be more helpful in teaching proceses.

To grow the idea in painting creatively, the earliest to note that a lot of practice and leave the fear to be wrong so that the body condition more controlled dap will provide improvement in body performance, it is as expressed Jordan E. Ayan (2002: 184) Plunging into the art world can be more soothing compared to activities like reading a book or watching television. Through the process of a work of art, the mind is free from all worries and will in itself dissolve in the work. The existence of today's dizaman many children are always on the guidance to be able, not in the guidance to know, the actual circumstances that actually started from the mistake, without error the person will not experience an increase name, without failure that person will not experience the name of success, After that all experienced then will experience satisfaction of what is done.

2. Method

The method of the research uses observation and development method (Research Ana Development). This type of research, mengembangkan teaching materials to paint the insights of local wisdom. (Syaodih, 2009) suggests that the results of research and development (product) are not always hardware but can be software. The research and development aims to produce a product teaching materials, but also leads to efforts in formulating learning techniques so ready to be used as a product model of teaching materials that can be used teachers and students in painting learning.

The Teaching materials are consist of 2 books, namely teacher book (BG) and student book (BS). The teacher's book is packed for teachers' guidance in painting, while the student's

book is packed as a supplement book or a book on painting learning.

The preliminary study stage is the first stage in conducting research and development. In the preliminary study begins with observations and interviews with classroom teachers, as well as conducting library reviews that are sourced from the school curriculum. Learning messages delivered with the use of teaching materials in this case is painted insightful wisdom that is tucked in every student learning process. Besides the literature study in analyzing the needs, field studies are also conducted through observation and interviews conducted to obtain information about learning and use of teaching materials at elementary schools in Kecamatan Pedan.

The results of the observations that have made by researchers include: 1) the process of implementation of learning in schools; 2) the type and condition of teaching materials used; 3) problems or constraints faced by teachers in learning activities; 4) student learning outcomes especially painting materials on SBK learning; 5) the level of student creativity.

The data collected is then done by identifying problems and analyzing the needs of teachers and students in the use of teaching materials to paint with local wisdom. In order to analyze the first objective of research and development, used descriptive qualitative analysis with interactive model from Miles and Huberman in (Sugiyono, 2011). Including the following. (1) Data validation results by expert lecturers, (2) Data on learning resources treated by elementary school teachers of class IV as a consequence of the implementation of learning Arts and Culture Arts painting materials analyzed qualitatively. (3) Data on the potential contendant of local wisdom koteks that have been exploited and which have not been utilized in painting learning are analyzed qualitatively. (4) data on the quality of instructional materials are analyzed through the alteration of the assessment results of teachers and students from a qualitative form to a quantitative form of scale 5.

3. RESULTS AND DISCUSSION

The teaching materials for painting with local wisdom are developed to gain a learning that is feasible, effective and easy to use in learning. Knowledge of local wisdom of students is still low and students are less aware of cultural values in the learning. The learning of painting can be developed based on local wisdom values of a region. The existence of teaching materials to paint the insights of local wisdom students can

know the meaning and value of local wisdom characters in the areas described especially in Klaten regency.

The Result of Feasibility Test

The results of the feasibility test show the teaching materials to paint the insights of local wisdom of the fourth grade students of Elementary School has met the aspects and criteria of assessment of the points of language, design, and materials.

This is seen from the results of the feasibility test of teaching materials to paint the local wisdom that shows good results. As for suggestions and feedback on the validation of language, design, and materials so that the improvement. Improvements are made by linking materials and cultures that correspond to local wisdom in the area of the researcher and improving the order of the material structure from the easy to understand to the elusive and then the image layout that adjusts the instructional material to make it look more attractive, and also combines colors that match the image and Writing to be easy to read and look more synchronous with each other. The addition of indicators and learning objectives so that students can find out what will be learned on teaching materials to paint the insights of local

wisdom. The next stage after the revision so that it can be tested on a limited test.

Context and Context of Local Wisdom Relevant to Art and Cultural Art Materials in Grade IV Classroom

The initial research that has been done is to conduct appropriate material analysis in class IV. The results of the analysis are presented in Table 1. From the analysis of Cultural Arts and Skills material, the researcher develops material with very high relevance level that is the material of painting. This is done so easy in developing teaching materials to paint the insights of local wisdom of fourth grade students of elementary school.

After analyzing the material, the researcher then describes the content and context of local wisdom that can be integrated into the selected material. These contents and contexts are relevant to be integrated into the painting material on the ground that the existing learning objectives are closely related to the painting materials with the insights of local wisdom. Content and context of local wisdom that can be integrated into the material can be observed in Table 2.

Table 1 Analysis of Art and Culture Materials Skills Class IV SD

Content to	Material title	Relevance with local wisdom
Content I	Knowing Applied Arts	Very high
Materi II	Drawing Illustrations	Very high
Materi III	Understanding Variety of Songs and Ritmis Musical Instruments	Less
Materi IV	Playing Ritmis Musical Instruments	Less
Materi V	Know the Dance Nusantara Elements	Enough
Materi VI	Demonstrating Nusantara Dance	Enough
Materi VII	Mengenal Karya Kerajinan Nusantara	Enough
Materi VIII	Working Batik Craft and Construction Material	High
Materi IX	Know Fine Art	High
Materi X	Working Relief	High

Table 2 Content and Context of Local Wisdom that Can Be Integrated into Matter

No	Content and Context of Local Wisdom
1	Klaten tourist attractions, such as Umbul Ponggok, Prambanan Temple, Plaosan Temple, Agrowisata Tondang Winangoen, and others.
2	Art such as Memetri Embung on the slopes of Merapi, Babat Alas Wonomarto, Gambyong and Jathilan, and others.
3	Culinary Tour, Restaurant Bu Mayar Cawas, Chicken Sop Pak Min Klaten, New Merapi Resto, and others.

Characteristics of Painted Materials Painted with Developed Local Wisdom

This instructional material is arranged so that teachers get a clear and detailed picture in the implementation of learning activities with the knowledge of content wisdom and context of

local wisdom. Specifically this instructional material is prepared for students Cho

Residing in Klaten District, Central Java. Characteristics of teaching materials developed are as follows.

- 1) Mapping of learning indicators, displaying indicator maps for linking and focusing on each lesson. This indicator map connects and simplifies the teacher's thinking flow in delivering and managing the learning and students can follow the pattern by being integrated based on the material raised.
- 2) Learning activities are structured in a materialist so that learning can unite and flow. Learning activities consist of various activities that support the overall learning objectives in hand on activities (such as "let's do") and mind on (like "let's practice").
- 3) The material presented is complete with examples of paintings and drawings of local wisdom, allowing students no longer need to look for other sources of material. This is intended so as not to complicate the students in learning, and also can overcome the lack of teaching materials used.
- 4) A meaningful learning experience through "let's practice" activities to build positive attitudes and behaviors, conceptual understanding, scientific thinking skills, procedural abilities that are tailored to the learning objectives.
- 5) Teaching materials are flexible, can be used both for learning klasikan, group and independent.
- 6) The design of teaching materials is made in a simple format and interesting, colorful and not monotonous, so as to stimulate the development of all the basic potential of students. For example

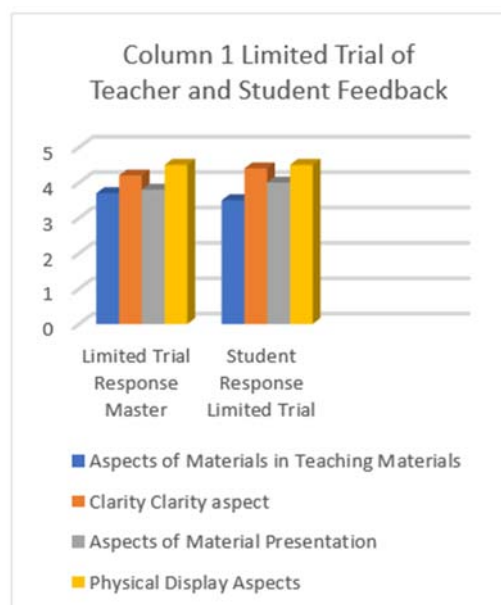
developing the potential of language, imagination, critical thinking, active, creative, and direct students to ask questions and also other potential underlying mastery of science and technology for further education.

Teacher's Response to the Painting Ingredients Painted with Local Wisdom of 4th Grade Students of Primary School

This teaching material is then trialed in a limited way involving fourth grade elementary school teachers. The test results show that the quality of teaching materials is based Teacher responses are in very good category. The highest score is on the presentation aspect of the attractiveness of the display of teaching materials. The limited trial results of teachers' responses to teaching materials can be seen in Column 1 Limited Teachers and Trial Responses.

Students' Responses to the Painting Materials to the Insight of Local Wisdom of Grade IV Primary School Students

This instructional material is then trialed in a limited way involving 11 students of grade IV elementary school. The results of the experiments show that the quality of teaching materials based on student responses is in very good category. The highest score is on aspects of the physical appearance of teaching materials and the literacy aspects of teaching materials can be seen in Column 1 Limited Teachers and Trial Responses.



In the above column can be slightly explained that the criteria are very good on the score of 4 to 4.5, whether there is a score of 3 to 3.5, then there are enough on the score 2 to 2.5, and less on the score 1 to 1.5, Then very less is present in the score 0 to 0.5. So from the limited test that has been done, the teacher's response has the highest score lies in aspects of physical appearance, and student responses have the highest score lies in aspects of physical appearance.

In general the development of this resource is composed of four main sections. The sections are among others: a. Mapping of learning indicators, b. Learning activities, c. Current information, and 4. Exercise questions.

Development of learning indicator mapping

Mapping of learning indicators, showing a map of indicators for all materials to be conveyed in each lesson. The map of this indicator can connect and facilitate the course of learning, so that the management of learning by teachers and students can follow the pattern with reintegration based on the material raised

Learning Activities

Learning activities consist of various activities. Activities based on hand on and mind on. Hand on activities such as work activities, ie activities to train skills in doing or producing something, especially works of painting, for example drawing with pencils, painting with crayons, and painting with watercolors. Other activities are mind-on activities, such as activities in the ability to discuss, or observe. Diana in this activity students are driven ability to think and ability in understanding a trick or steps that correct in solving a problem.

Additional informatif

Additional information that is compiled is the provision of information to add students' knowledge, especially concerning the potential of the region, especially Klaten Region. This is done to increase students' curiosity about their own area, but still within the scope of the material presented.

Exercises

Exercise this reintegration problem in every learning activity. This exercise is not arranged separately with learning materials. Thus the consideration of learning this material has a variety of points of pursuit, so that every learning activity is always included with the exercise questions.

Development of teaching materials to paint with local wisdom should be done by fulfilling Scientific standard of development. This is supported by Wahyudin (2015), which states that the development of local culture-based value-driven activities contributes positively to improving the alliteration of competency-based students. The integration of local cultural values in curriculum development such as making learning goals, designing learning materials, determining learning strategies, learning media, and learning evaluations is essential for quality of learning (Northcote, et al., 2014).

From the above discussion can be concluded that is. (1) The content and context of local wisdom that is relevant to the learning materials in the fourth grade element includes tourist attractions, local crafts, and culinary. The developed teaching materials are painting materials that include, an understanding of applied art, pencil painting, with crayons, and with watercolors. (2) the characteristics of teaching materials to paint the wisdom of the students developed, namely the mapping of indicators of learning, learning activities consisting of hand on and mind on activities, discussion activities, and practice questions. (3) responses than teachers to teaching materials painted with the local wisdom of students, the quality of the physical appearance of teaching materials produced is in very good category. (4) students' responses to teaching materials to paint the insights of local wisdom of students, the quality of physical display of teaching materials that are generated in the category very well.

Suggestions that researchers provide in this study is. (1) A deeper study of other local wisdom that is integrated with the appropriate learning materials is needed to strengthen the nation's culture. (2) It is necessary to socialize the use of teaching materials to paint the local wisdom of the students to the relevant parties such as the Education Office and education providers, especially elementary schools.

4. Conclusions and Suggestions

From the discussion above it can be concluded that is. (1) The content and context of local wisdom that is relevant to the learning materials in the fourth grade element includes tourist attractions, local crafts, and culinary. The developed teaching materials are painting materials that include, an understanding of applied art, pencil painting, with crayons, and with watercolors. (2) the characteristics of teaching materials to paint the local wisdom to

improve the creativity of students developed, namely the mapping of indicators of learning, learning activities consisting of hand on and mind on activities, discussion activities, and practice questions. (3) responses from teachers to painting materials with local wisdom to improve students' creativity, ie the quality of the physical appearance of teaching materials produced is in very good category. (4) students' responses to teaching materials to paint the local wisdom to improve students' creativity, the quality of the physical appearance of teaching materials produced is in very good category.

Suggestions that researchers provide in this study is. (1) A deeper study of other local wisdom that is integrated with the appropriate learning materials is needed to strengthen the nation's culture. (2) It needs to be socialized about the use of teaching materials to paint the local wisdom to improve the creativity of students to relevant parties such as the Education Office and education providers, especially primary schools.

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AN EFFECTIVENESS OF HUMAN CAPITAL INVESTMENT IN EDUCATION PERSPECTIVE FOR EDUCATION PERSONNEL

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Abstract

This study aims to analyze 1) payback period (PP), 2) benefit / cost ratio, 3) return on investment (ROI), 4) net present value (NPV), and 5) internal rate of return (IRR) in the perspective of education for education personnel. This study is an evaluation using the discrepancy model. The instrument for collecting data was in the form of questionnaires addressed to education personnel with Guttman scale. The validity of the instrument included logical validity and empirical validity and was calculated by using the Pearson product moment. The reliability was measured by using Kuder Richardson (KR20) technique. The data were analyzed using descriptive and percentage techniques. The results show that: 1) the period of time of return on investment in the form of education for education personnel who improved their education qualification did not exceed the time limit, so investment in the form of education is feasible, which is also proved by achieving score above average by 83.69 %; 2) the benefit / cost ratio of investment in education provides positive benefits for education personnel themselves and is proved by accomplished score on average 77.56%; 3) the return on investment in education perspective for education personnel has a positive value so the investment is worth considering (ROI achieved scores by an average of 77.07%); 4) the obtained net present value is positive, so it can be said that investment in education perspective for education personnel is feasible. The score resulted is also above average by 84.07%; 5) the internal rate of return is greater than the cost of capital so investing in education perspective is feasible, which is also proved by the resulted score of 97.07%.

Keywords: human capital investment, payback period, benefit/cost ratio, return on investment, net present value, internal rate of return.

1. Introduction

In 21st century, Indonesia has been aware the importance of improving human resource educated, honest, skilled and professional in knowledge and management. The success of national development is determined by the quality of human resources. The developing social capital can create human perfectly. Globalization era become a challenge itself for education institution. Beside of creating the competence human resources, it must be able to provide the acculturation of amazing culture.

In this era, education world prosecuted have the multiple roles, they are providing a quality human and high competence related to the advancement of science and technology, providing human affecting mental and skill (professional) readiness, and providing the competence human.

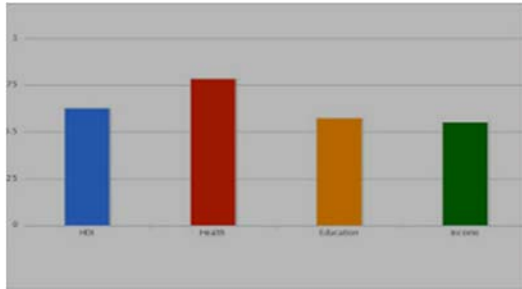
Indonesia must be able to be competitive with other countries in aspects of product, services, and providing a competence human. The quality of Indonesia human resources is still been under other country. Some examples of

Indonesia challenge for developing the potential of human resources are that in fact Indonesia has been on 106 rank 2010 years by score 0,687 of 108 countries in Asia and Africa based on survey of Human Development Index (HDI). Human-related Development Index (IPM) stated that Indonesia is been on 112 ranks of 175 countries. In Gender-related Development Index (GDI) Indonesia is been on 19 ranks of 144 countries. Then, technology achievement index (IPT) Indonesia has been on 60 rank of 72 countries.

Very High Human Development	High Human Development	Medium Human Development	Low Human Development
1. Norway	43. Bahamas	96. Fiji	128. Kenya
2. Australia	44. Lithuania	97. Turkmenistan	129. Bangladesh
3. New Zealand	45. Chile	98. Dominican Republic	130. Shing
4. United States	46. Argentina	99. China	131. Cameroon
5. Iceland	47. Kuwait	100. El Salvador	132. Myanmar
6. Luxembourg	48. Latvia	91. Sri Lanka	133. Yemen
7. Netherlands	49. Montenegro	92. Thailand	134. Benin
8. Canada	50. Romania	93. Oman	135. Madagascar
9. Sweden	51. Croatia	94. Suriname	136. Mauritania
10. Germany	52. Uruguay	95. Bolivia (Plurinational State of)	137. Papua New Guinea
11. Japan	53. Libyan Arab Jamahiriya	96. Paraguay	138. Nepal
12. Korea (Republic of)	54. Panama	97. Philippines	139. Togo
13. Netherlands	55. Saudi Arabia	98. Botswana	140. Cameroon
14. France	56. Mexico	99. Slovenia	141. Lesotho
15. Israel	57. Malaysia	100. Moldova (Republic of)	142. Nigeria
16. Finland	58. Bulgaria	101. Egypt	143. Uganda
17. Ireland	59. Trinidad and Tobago	102. Uzbekistan	144. Senegal
18. Belgium	60. Serbia	103. Micronesia (Federated States of)	145. Haiti
19. Denmark	61. Belarus	104. Oupana	146. Angola
20. Spain	62. Costa Rica	105. Namibia	147. Djibouti
21. Hong Kong, China	63. Peru	106. Honduras	148. Tanzania United
22. Greece	64. Albania	107. Maldives	149. Republic of
23. Italy	65. Russian Federation	108. Honduras	150. Chad
24. Luxembourg	66. Kazakhstan	109. Kazakhstan	151. Zambia
25. Austria	67. Azerbaijan	110. Kyrgyzstan	152. Rwanda
	68. Bosnia and Herzegovina		

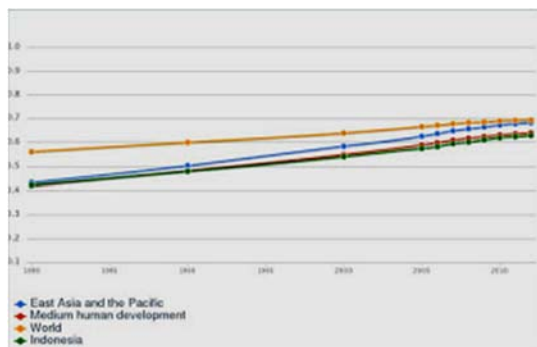
Figure 1. Human Development Index (HDI)

Indonesia also has been on 121 ranks of 187 countries compared by an institution under PPB UNDP (*United Nations Development Program*). From three dimensions measured by UNDP, the higher quality weight of developing human is healthy (0,785), education (0,557) and economy (0,550) with total HDI 0,629 as the following graph:



Graph 1. HDI in Indonesia 2012

This number had a increasing year-on-year although it is still below the average of East Asian and Pacific countries (0.683). The trend of increasing HDI for Indonesia can be seen in the graph below.



Graph 2. Trend of HDI in Indonesia 1980 – 2012 years

At the level of ASEAN, Indonesia is still been in the sixth rank (6). Indonesia is been under Singapore (18), Brunei Darussalam (30), Malaysia (64), Thailand (103), and Philipines (114). While countries under Indonesia are Vietnam (127) and Myanmar (149) in end rank. Interestingly, the data show that in education dimension, the average length of Indonesian school is only for 5.8 years. It is far below other ASEAN countries such as Singapore (10.1 years), Malaysia (9.5 years), Philipines (8.9 years), Brunei Darussalam (8.6 years), and Thailand (6.6 years). Then if it is referred to in a quality domain of education include curriculum, educators, educational infrastructure and others.

Productivity is still a problem for the workforce in Indonesia. The comparison of

Indonesian workers and US workers reached 36 % in productivity subject.. That is, working hours spent by Indonesian workers are only 36% above American workers. While Cambodian workers accounted for 46%, Malaysia reached 43%, Thailand 37% and Singapore 36%. Indonesian workers are only more productive than Filipians 30% and Vietnam 13%.

Asian Productivity Organization (APO) notes that every 1,000 Indonesian workers in 2012 are only about 4.3% of the skilled workforce. The amount is far behind compared to the Philippines which reached 8.3%, Malaysia 32.6% and Singapore 34.7%. In the global competitiveness index shows the productivity from natural resources and human resources, Indonesia is still far behind from other ASEAN countries. Indonesia ranks 5th in ASEAN (50th world) in the 2011-2012 Global Competitiveness Index report released by the World Economic Forum. Here is the table of the sequence.^[1]

Table 1. Competitiveness Index Rating of Countries

	Negara	2008	2012	Perubahan
1	Singapura	5	2	3
2	Malaysia	21	25	-4
3	Brunei Darussalam	39	28	11
4	Thailand	34	38	-4
5	Indonesia	55	50	5
6	Filipina	71	65	6
7	Vietnam	70	75	-5
8	Kambodia	109	85	24
9	Timor-Leste	129	136	-7

The reliable human resources (HR) is a strong foundation in facing the changing period and achievement of excellent performance in an organization. Teachers are an important element that has a great role and it is an inescapable fact. Teachers are a production factor which moving and changing continuously, preparing the ability of intellects, feelings and motivation. If teacher as a production factor which feel happy to work in passion, it is certain that the goals set by the organization will be more easily achieved.

Improving the quality of human resources (HR) to the attention of all aspects in entering this era of globalization. Especially in the atmosphere of multidimensional crisis, the community needs the support of various parties to face free competition/global. So that, education has a important role for improving the quality of a resources owned. Increasing education becomes one of factor for increasing the basic potential possessed by employees. Indicators of quality of human resources (HR) can be the level of education.

Minister of Administrative Reform and Bureaucratic Reform, said that of the 4.7 million Civil Servants (PNS), 95% of civil servants are incompetent, and only 5% have competence in their work (Pikiran Umum Rakyat, Thursday, March 1, 2012).

The Statement of Minister of Administrative Reform and Bureaucracy Reform tends to give some responses from various communities/groups, both civil servants themselves and those working in the private sector. For civil servants is one of self introspection materials to improve and improve the competence, because the civil servant is located as an element of the state apparatus in charge of providing services in general to the community professionally, honestly, justly and equitably in the implementation of state duties, government and development.

Law Number 8 Year 1974 and Law Number 43 Year 1999^[2] about the Principles of Personnel is explained that Civil Servant is every citizen of the Republic of Indonesia who has fulfilled the determined requirements, appointed by the authorized official and assigned the duty in a state office, or entrusted with other state duties, and is paid under applicable laws and regulations. Further it is explained that Civil Servant consists of: Civil Servant (PNS), Member of the Indonesian National Army (TNI); and Members of the Indonesian National Police (POLRI).

Civil Servants (PNS) consists of: Central Civil Servants and Regional Civil Servants. It can be described that if this civil servant has no competence, it will affect the service to the community, such as service become slow, work arbitrarily, not maximal, inefficient and the result is not related to standard operational procedures (SOP) that have been determined.

The fundamental problem of the quality of human resources (HR) faced by many organizations is one of the organizations government that is SMK, it changes the reward system from *pay for position* to *pay for person*. The salary system has changed, if previously the basic salary portion is greater than the salary variable (rewards or bonuses), now increasingly enlarging the portion of the salary variable, it means that each person is assessed based on his performance (pay for performance).

Civil Servants as teachers in SMK, teachers need to be improved in terms of education and skills on a more intense occasion. Teachers as one factor of production except natural resources, capital, entrepreneurs to produce output. The higher quality of teacher make more efficiency and productivity of an organization and can

improve the competence of vocational graduates and has been ready to compete in the work world. History notes that organizations implemented the human-dimensional development paradigm have been able to be developed although it has not the riches of physical resources. Emphasis on human investment believed is the basis for increasing productivity. Land, employees, physical capital can experience diminishing return, while science is not.

Human resource investment as a money-investment for teachers in SMK aimed to buy an expected asset in future can be resold with a higher value. Investment can also be said as a delay of current teacher consumption for future consumption as hope for future profits.

Investments for teachers in SMK can be done in non-physical domains such as education, training, field work practices, health care and employment. Non-physical investment or better known as human resource investment is an amount of funds spent and an opportunity to earn income during the investment process. This investment plays a role in progress of economic growth. Human capital investments through education in developing countries are very needed. Although investment in education is a long-term investment.

Factors can cause in developing levels of education in SMK are vocational higher education, expanding community knowledge, and heightening the rationality of teacher thinking. This allows teacher to take a more rational step in acting or making decisions. Education allows teachers to learn the technical knowledge needed to lead and run modern management and other modern activities. The better knowledge gained from education becomes a stimulus to create innovations in engineering, economics, and in other aspects of community life.

Increased experience of a teacher in a work world, it will also increase knowledge, skills, capabilities and dexterity in the devotion of his work in organizational institutions. The more a person's work experience or the longer person's time for work duration will be able to improve the ability of cooperation or in other words will affect the performance improvement of the person.

Experience is important, but it will be more optimal if it is balanced with the level of knowledge constantly updated. Science is constantly evolving, as same as times. New problems, new tools and procedures, and new jobs always create new needs for the organization. If an organization does not want to

be left behind must also keep up with the times. That fact can not be denied the existence.

When an organization wants to form a teacher for an organization following the development of changing time/era, the time is needed is a teacher's level of education required by the organization. In education there is a continuous process running and not just for a moment. But education can also be called as an effort to improve one's general knowledge including mastery of the theory to decide the issues concerning the activities of achieving organizational goals.

Teacher in an organization is very important about innovation process. Except the achieving of education improves the performance teacher but it can improve *individual capability, individual motivation, leadership, the organizational climate, dan workgroup effectiveness* (Mayo, 2000, pp. 521-533)^[3]. The components become main purpose of teachers' role in organization especially in SMK.

Many of teachers in SMK have a long working period, generally above fifteen years dedication. Ironically they only belong to high school of education level. If this is maintained so they will have competitors from different fields of science that will keep them far behind. As we all know that from period to period are changing, and those follow as well as the demands of work.

Educational investment provides a higher rate of return than physical investment in other fields. The return value of education is the ratio between the total cost incurred to finance education with the total income which will be earned after a person graduates and enters the workforce.

The concept of human capital investment that supports economic growth, has existed since the days of Smith (1776), Thunen (1875) and other classical theorists prior to the 19th century which emphasized the importance of human capital investment. Human capital is a stock of the productive capabilities and knowledge that occur in society (Becker, 1975, pp. 334)^[4]. Human capital is a long-term investment in human resource development to increase productivity. The importance of human capital is the existing knowledge on human resources is the driving base in increasing productivity.

Human Capital in an organization consists of individuals who work in it. Human capital is also the basis of organizational activities. SMK is an organization that owns and manages teachers. The institution has many teachers that can be developed. The reason why education as a human capital investment for teachers working in SMK is because education is the most important

investment in human capital to address today's global challenges.

(Fitz-ens, 2000, pp.xii)^[5] states that the definition of human capital can be explained as a combination of the following factors: a) The characteristics of a person brought from birth into work, intelligence, energy, generally positive attitudes, Reliability, commitment; b) A person's ability to learn, talent, imagination, creativity, and what is often referred to as street smart (intellectual intelligence); c) Motivation of a person to share information and knowledge, team spirit and goal orientation.

The components of educational investment include *output* of education in the form of learning gain, such as increased knowledge, skills, understanding, and attitude changes. The benefits in education are obtained only when the output of learning is used effectively in the community. Thus, the benefits of education are not on the output of the educational process, but rather how the output of education is used. The use of effective learning output is not a function of educational cost input, as it is influenced by many factors beyond education.

(Stockley, 2003, pp.41) noted that *human capital* have meaning;

"the term of human capital is recognition that people in organization and business are an important and essential asset who contribute to development and growth, in a similar way as physical asset such as machines and money. The collective attitude, skill and abilities of people contribute to organization performance and productivity. Any expenditure in training, development, health and support is an investment not just an expense".

Similar with human capital investment, SMK provides opportunities for teachers to continue their education at a higher level. The number of teachers (PNS) in SMK is 536 ranging from elementary to *postgraduate* level/degree. In fact the number of teacher education graduate high school level/degree is more than college graduate (D2 / D3 / S1 / S2).

There are things that need to be analyzed why the amount of high school level/degree is still a lot. Whereas the basic assumption of human capital investment theory is that a person can increase his income through improving education. Each additional one level of education means on other hand improving the ability in working and increase his income and delay the receipt of income during a certain period of education.

The attention of the leadership in SMK to human capital or human capital as one of the main production factors for most organizations is often compared with other production factors such as technology, infrastructure, and money. Many institutional leaders are less aware that the benefits derived from the organization derive from human capital. This is caused by the activity of the organization only seen from business perspective. Leaders in SMK do not see human resources (HR) as a unique unit of knowledge and skills needed to be developed. Not only human resources of the educators, but teachers also need to be considered.

Teachers in SMK are not yet fully aware of the function of human capital investment. It can be identified that most of teachers enjoy the enjoyment of existing jobs today. It's hard to get out of the comfort domain and develop his knowledge. Most teachers are not concerned with the knowledge they possess, because everyday tasks in work can be trained intensely and do not require further education. Promotion and position, are waiting for his time to arrive.

Teachers working in vocational schools and continuing education at higher levels will get quality in good work. It can be seen in some teachers who have completed educational improvement, it is belong to theory of human capital investment, that education affect on economic growth because education plays a role in increasing productivity in work. The higher the formal education obtained by someone will increase the work productivity of the person.

Improving the quality of human capital investment can not be done in a short time, but it takes a long time. Human capital investment is actually the same as other production factor investments. Need to take into account the rate of return (benefit) of human capital investment. Teachers in vocational schools that will make an investment, it should do a cost benefit analysis (cost benefit analysis). The cost is the cost incurred for school and the opportunity cost of schooling is the income it receives when the teacher is not in school. The benefit is the income (return) that will be received in the future after school is over.

Simarmata (1985: 156)^[6] declare to classify investment analysis in general into 2 parts: 1) static investment analysis, including: a) profitability, b) payback period, c) B / C ratio, and d) return on Investment); 2) dynamic investment analysis, including: a) net present value, b) internal rate of return, and c) profitability index).

Measurement of human capital investment and rate of return for teachers in

vocational school who continue education has never been done. Starting from that point, it is important to do an analytical activity to know the measurement of human capital investment and rate of return for teachers in vocational schools that will make improvements in education.

2. Method

Types of research

This research was an evaluation research using quantitative approach.

Time and Place of Study

The time conducted in this evaluation research is on September-December 2016. An evaluation research was conducted at SMK of DI.Yogyakarta province.

Target / Research Subject

Subjects in this evaluation research were all teachers working in vocational schools (especially those already civil servants) amounted to 536 teachers. The sample for validation amounted to 30 teachers while the sample of the research amounted to 205 (Samples obtained from the Population Table Issac and Michael).

Procedure

The procedure in this research is by making lattice questionnaires, documentation guides, and interview formats. After the data collected then analyzed using Human Capital Investment formula and by using Descriptive Statistics with the help of SPSS Software version 21.

Data, Instruments, and Data Collection Techniques

Data were collected by using questionnaire and interview, then analyzed and concluded by using descriptive.

Data analysis technique

Data analysis technique is done by two things that is by using Human Capital Investment formula, covering: 1) calculation of Payback Period for teacher who is conducting education; 2) calculate Benefit / Cost Ratio; 3) calculate Return on Investment; 4) calculate Net Present Value; And 5) calculate the Internal Rate of Return. The second analysis to evaluate using software with the help of SPSS version 21 with descriptive statistical analysis.

3. Results and Discussion

Payback Period

Payback Period calculation results are the total time required for return on investment does not exceed the specified study time limit. This is evident in the calculation results of both teachers. Teachers from S1 to S2 have a payback period of 1 year 7 months 9 days does not exceed the time

limit specified for 4 years, while the teacher who continue on S3 has Payback Period 2 years 3 months 21 days from the standard time specified that is 5 year. Descriptive statistical calculation results using SPSS version 21 has an achievement score of 83.69%. This figure indicates that the ability of teachers working in vocational school in return for investment of education does not exceed the time limit specified, so Payback Period investment in education is effective because it has a smaller gap.

Benefit / Cost Ratio

The calculation result of Benefit / Cost Ratio is the money used by the teacher in education investment gives positive benefit for the teacher itself, it is proven on the result of the calculation on the teacher who continue the S2 level that is 1.48% and the teacher who continue the S3 level of 1.54 %. These figures indicate that the benefit.cost Ratio in education provides accuracy in utilizing the budget by giving priorities on input factors in the field of teacher education that can spur achievement of work performance so as to provide good benefits for the teacher. Descriptive statistical calculation results using SPSS version 21 shows 77.56% and greater than the gap value. 77.56% can be interpreted that the strategic policy in the management of cost in education by principal teachers on the balance between the cost (cost) of education issued with benefits received, so that B / C Ratio can be effective.

Return on Investment

The results of the Return on Investment of teachers who continue S2 is 48% while teachers who continue S3 by 54%. The percentage is not small, so the ROI for teachers who make improvements to educational qualifications is not adverse. Figures percentage is the greater can provide greater returns as well. Higher ROI will provide a high profit. Descriptive statistic calculation result using SPSS version 21 equal to 77,07%. This figure shows that the ROI for teachers investing in education agrees that ROI can provide good benefits for teachers, so investment in teacher education is acceptable, because it has fewer gaps than the percentage rate generated.

Net Present Value

Net Present Value calculation result is Positive, it can be proven on the result of teacher counting that continue S2 which equal to Rp17.059.305, - while the teacher who continue S3 equal to Rp7.027.573, - Estimation of result of education monetize with pay attention to cost factor and change value of money Does not directly affect the investment investments made.

The rupiah figure illustrates that the income to be received by teachers in the coming year does not decrease due to inflation, meaning that the NPV in the educational perspective takes into account the value of money that varies between the present and the future. Descriptive statistical calculation results using SPSS version 21 above the average of 84.07%. The average is greater than the gap so that the NPV in educational achievement is feasible to do. This figure indicates that teachers who work in SMK understand the things in estimating the results of higher education which is a way of estimating the results of education in monetary with attention to cost factors and changes in the value of money.

Internal Rate of Return

The calculation result of Internal Rate of Return for teachers who are continuing education at level S2 is 20,09% while result of IRR calculation for teacher continuing at level of S3 equal to 15,72%. IRR numbers are above cost of capital (7.50%), it can be interpreted that the discount rate that equates the results of continuing higher education with total cost can provide good income. Descriptive statistical calculation results using SPSS version 21 above the average of 97.07%. These figures show that teachers working in SMK are familiar with the method of calculating investments by calculating the interest rate that equates the present value of the investment with the present value of future net receipts. The conclusion of these figures implies that investment in the education can be declared effective (feasible).

The result of this research in education perspective for teacher at SMK can be seen on table 2.

Table 2. The Result of Descriptive Analysis by Using SPSS 21.

No.	Aspek	Skor Capaian (%)	Kesenjangan (%)
1.	<i>Payback Period</i>	83,69	16,31
2.	<i>B/C Ratio</i>	77,56	22,44
3.	<i>Return on Investment</i>	77,07	22,93
4.	<i>Net Present Value</i>	84,07	15,93
5.	<i>Internal Rate of Return</i>	97,07	2,93
Total		419,46	80,54
Mean		83,892	16,108
Deviation Standard		8,07	8,07

While the recapitulation data as described on diagram below.



Graph.3. Result Data of Descriptive

The data above are described that implementation of increasing educational qualification for teacher at SMK has three aspects belong to near standard. It is shown by performance score above mean can be seen on table 3.

Table.3. Aspect of Human Capital Investment above mean.

No.	Aspects	Performance Score (%)	Asymmetry (%)
1.	Return on Investment	77,07	22,93
2.	Net Present Value	84,07	15,93
3.	Internal Rate of Return	97,07	2,93

1.	Return on Investment	77,07	22,93
2.	Net Present Value	84,07	15,93
3.	Internal Rate of Return	97,07	2,93

Two others include aspects by below mean in the implementation of educational qualification improvement for teachers in SMK. These aspects can be seen in table 4.

Table.4. Aspects of Human Capital Investment below mean

No.	Aspects	Performance Score (%)	Asymmetry (%)
1.	Return on Investment	77,07	22,93
2.	Net Present Value	84,07	15,93

Based on the five methods of feasibility on the financial aspects used in assessing investment of Human Capital Investment can be seen in table 5.

Table. 5. Result of Investment Feasibility Analysis

Assessment Method	Score/Value	Defined Standard	Explanation
Payback Period (PP)	1 tahun 7 bulan 9 hari 2 tahun 3 bulan 21 hari	Umur Ekonomis 4 tahun 5 tahun	UE > PP Investasi layak
B/C Ratio	1.48% 1.54%	B/C Ratio (+)	B/C Ratio + Investasi layak
Return on Investment (ROI)	48% 54%	ROI (+)	ROI + Investasi layak
Net Present Value (NPV)	Rp17.059.305 Rp 7.027.573	NPV (+)	NPV + Investasi layak
Internal Rate of Return (IRR)	20.09% 15.72%	WACC: 13% (Weight Average Cost of Capital)	IRR + Investasi layak

4. Conclusion

Master from S2 level has a payback period of 1 year 7 months 9 days does not exceed 4 years, while S3 level has Payback Period 2 years 3 months 21 days not exceeding 5 years. Descriptive statistical results have an achievement score of 83.69%, so Payback Period investment in education efektif.

The calculations on the teacher who continue the S2 level of 1.48% and S3 level of 1.54%. Descriptive statistic 21 shows 77.56%, it can be interpreted that there is a balance between the cost (cost) of education issued with benefits received, so the B / C Ratio can be effective.

The result of ROI S1 is 48% and S2 is 54%. The result of descriptive statistic with

77,07%. The figure shows that the ROI for teachers is effective.

The results of Net Present Value of teachers who continue S1 that is Rp17.059.305, - while the S2 power of Rp7.027.573,-. The result of descriptive statistic is 84,07%. The figure shows positive so investment is considered effective.

The calculation result of Internal Rate of Return S1 level is 20,09% while S2 level equal to 15,72%. IRR numbers are above the cost of capital (7.50%), Descriptive statistics are 97.07%. This figure means that investment in the education can be declared effective (feasible)

This suggestion is for the institution where the research is conducted, that is SMK. The suggestions are: 1) Need of work program

related to Human Capital Investment so that teacher is institutionalized by institution in improving education qualification at higher level; 2) Leaders of the organization should understand human capital because the concept of human capital can measure the ability of teachers to transform data into a valuable outcome for the organization; 3) The organization leadership recognizes the value and contribution of existing teachers, thereby making the organization grow and growing rapidly.

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DEVELOPING NON-VIOLENCE EDUCATION TO ELIMINATE VIOLENCE AT SCHOOL AND CAMPUS

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Abstract

The world of education in Indonesia has mourned when various kinds of violence in school and campus environment have occurred. Recently, a student of a famous high school killed his roommate because of shame experience. In Yogyakarta, there is a new dangerous hobby of young students, called *nglithih*, a group of students going around the city in the night with motorcycles bringing swords to threaten people or other groups.

Facing this situation, we need to develop anti-violence education which is expected to stop many forms of violence that occur at school and campus. Character education which offers good values of the society can become an alternative form of education that can be applied to improve the education system in Indonesia amidst the challenges of fundamentalism, radicalism and conservatism. Character education needs to be developed to foster an attitude of openness, inclusiveness and dialogue which embraces all people from various cultural backgrounds, religions, beliefs, tribes and ethnic groups in Indonesia as well as to help to nurture young people to be fully human.

One of the methods to enhance character of the students is what we call Reflective Pedagogical Paradigm approach. It can be used for more effective anti-violence education to achieve the goal of complete and comprehensive education. Reflective Pedagogical Paradigm approach is a method developed by the Jesuits since sixteenth century. The Jesuits are famous with good education since the order manages many schools and universities all over the world. The Jesuits have a strong educational tradition since the beginning of the order in the sixteenth century.

This paper develops non-violence education, an application of character education based on Pedagogical Paradigm of Reflection approach. By this approach, the students can develop sense of humanity, sister-brotherhood, openness and inclusiveness among the students from different backgrounds, religions, beliefs and ethnics to foster a basic unity of the nation.

Keywords: non-violence education, character education, Reflective Pedagogical Paradigm.

1. Introduction

On March 12, 2017, the people of Yogyakarta were shocked by the tragic event, namely the death of a student of Piri 1 Junior High School named Ilham Bayu Fajar (17 years old), due to a group of students clashing at around 00.30 at Jalan Kenari, near Yogyakarta City Government Center (tribunjogja.com). Ilham was killed after being hit by a sharp weapon that hit his chest through the lungs. No less than two days the Police Criminal Investigation and Crime Unit Yogyakarta arrested seven of the nine children allegedly involved in the attack. The perpetrators were still in junior and senior high school. This incident started when the group of the victim and the group of perpetrators met, then came out the word of curses from the mouth of the victim. According to Police Chief, Brigadier General Ahmad Dofiri, the perpetrators have

indeed planned *klithih* action. They ride the motor around at night while carrying sharp weapons.

Another tragic incident occurred when three students of Islamic University of Indonesia, Yogyakarta, namely Muhammad Fadli, Syaits Asyam and Ilham Nufadmi Listya Adi died after attending the activities of *Mapala* (Nature Lovers Students) in Tawangmangu January 13-20, 2017 (*Kompas*, January 25, 2017). The management of University of Islam Indonesia (UII) recognized the violence against the participants. As a form of moral responsibility for the disaster, UII Rector. Ir. Harsoyo M.Sc. resigned from his post as Rector (*Kedaulatan Rakyat*, January 27, 2017).

Previously, several times Indonesian educational world has mourned a number of violence that occurred on campus (*Kompas*, January 25, 2017): at the College of Marine

Sciences, Marunda, North Jakarta (Dimas Dikita Handoko died, persecuted by his senior on 25 April 2014, six other cadets injured; Amirulloh Adityas Putra died, persecuted by his senior on January 10, 2017), at the Djadajat Maritime Academy, Marunda, North Jakarta (David Richard Djumaati died, persecuted by his senior on February 25, 2013), at the Jambi State Police School (two students died on June 1, 2013, 11 other students were hospitalized after cross-country exercises).

The Director of Family Education, Ministry of Education and Culture, Sukiman in educational seminar at the Faculty of Education, State University of Malang, East Java (November 29, 2016) stated that the number of violence at school environment experienced by students is still quite high. There is still a perception that violence is part of education, discipline needs to be done through violence. Based on data from the International Center for Research on Women (ICRW) in 2015, as many as 84 percent of students in Indonesia claimed to have experienced violence at schools. As many as 45 percent of male students and 22 percent of female students mentioned that teachers or school staffs were perpetrators of violence. In addition, 75 percent of students admit to having committed violence at schools. Other facts, based on the data of United Nations International Children's Emergency Fund (UNICEF), 50 percent of children claimed to have experienced bullying at schools; 40 percent of students aged 13-15 years claimed to have experienced violence by peers (kompas.com) [1].

Recognizing the prevalence of violence in education, the author is interested in bringing forward the view of Ivan Tillich, a famous Austrian philosopher, who reflects much on the educational world in the United States and Latin America. This paper will present who Ivan Illich was and his views on non-violence education. For the context in Indonesia, non-violence education needs to be combined with character education so that education that aims to form a complete human being can be realized. The approach of Paradigm of Reflective Pedagogy can be used to further strengthen non-violent education.

Ivan Illich

Ivan Illich (September 4, 1926 - December 2, 2002) was an influential Croatian Catholic and Austrian-Croatian philosopher who wrote much about educational institutions. Illich was born in Vienna from the Croatian Catholic father, Ivan Illich Peter, and the Jewish mother, Ellen née

Regenstreif-Ortlieb. Illich spoke many languages, including Italian, Spanish, French, German, Portuguese, Hindi, English and Croatian. He studied histology (micro-anatomy) and crystallography at the University of Florence (Italy), theology and philosophy at the Pontifical Gregorian University in Rome (1942-1946), and medieval history in Salzburg, Austria (wikipedia.org.)

In 1951, as a priest Illich was assigned to a poor county in New York, on the northern tip of Manhattan, then moved to the area of Puerto Rican immigrants. In 1956, Illich was appointed as vice-chancellor of the Catholic University of Puerto Rico, where he met Everett Reimer. Both became educational figures, offering an education outside school. In 1961 Illich founded the Centro de Documentación Intercultural (CIDOC) in Cuernavaca, Mexico, a Research Center offering language courses for missionaries and volunteers of the Alliance for Progress program established by John F. Kennedy, and documenting the roles of the Vatican in developing the Third World. Through CIDOC, Illich criticized groups working to develop the Third World, including missionaries and foundations, which ultimately led him to conflict with the Vatican. In 1976 Illich closed CIDOC. Some members continued it as a language course center.

In the 1970s, Illich's thought was very influential among French leftist intellectuals. In the 1980s, Illich taught at universities in the United States, Mexico, and Germany. He was a visiting lecturer at the University of Pennsylvania, University of Bremen and Hagen University. At the end of his life, Illich was strongly influenced by Indian economist who became adviser of Mahatma Gandhi, J.C. Kumarappa, who appeared in his book, *Economy of Permanence*.

The Thought of Ivan Illich

In 1971, Illich published the book *Celebration of Awareness: A Call for Institutional Revolution*. In this book Illich discussed the following themes: American violence in Vietnam, the fight against poverty, Latin America, Puerto Rico and immigration to the United States, issues within the Catholic Church, the Church's role in social change and its development, the waste of educational school, and family planning programs in the third world. Each theme raises the theory and practice towards a cultural revolution.

Illich questioned all forms of certainty as truth [2]. He criticized the processes and methods

of industrialization in the United States applied in the third world, especially in the field of education. According to Illich, the institutional approach applied in the United States has resulted in dehumanization and creating backwardness for the poor. Illich reflects that the social structure and systems that existed at that time (1960s) led to the destruction of human beings. Illich criticized the Church and its efforts for the development of the poor in Latin America and called on radical social and institutional change within the Catholic Church, which can be easily applied to larger social contexts. Illich invited everyone to fight together to create a new world. Illich called it a “call to celebration” [3].

Deschooling Society

The second book written by Ivan Illich was the *Deschooling Society* which addressed the issue of education. Illich protested the existing educational system and institutionalization of learning. In the early 1960s Illich believed and convinced in the benefits of people at school as a means of “human liberation” through the awareness and excitement of science and knowledge [4]. Towards the end of the 1970s Illich changed his attitude and believed that schools should be dissolved, because education held in schools had deviated from the real purpose of education. Schools no longer distinguished between teaching and learning, between pursuing test scores and education, between the skills of doing a particular job and creating new thoughts and ideas. The person who entered the school was directed to the worship of the value of services in the community work market, not to mention the provocation and dissemination of new thoughts which are expected to help the effort to uphold human dignity.

The danger of excessive worship of the value of the service market in a society that had developed both technology and economic system had been reminded since the early 1950s about the sense of alienation experienced by human beings in a complex society. The courses in schools in the United States and Latin America tended to lead to the killing of human basic values [4]. Illich saw schools as authoritarian, repressive, one-sided, overpriced, social institutions only benefit the rich over the sacrifice of the poor, and even more the school became a place of gaining useless knowledge. Schools were places to continue and perpetuate existing social myths and contradictions. Schools were places to mold the oppressors of basic human

values that should be developed and disseminated to the community through school.

Ivan Illich offered a way out by developing a unique and personal education that was separated from the existing school system. Good education was education organized by peers. One should be freed from the shackles of pursuing diplomas, from the curriculum rigor, and from the whole process of mass production work organized by private bodies as well as governmental institutions. Learners should be freed from the feudalism of school structures. One should be free to choose and demand knowledge from whomever he likes, so that one likes the knowledge he learns and has a passion in the mutual relationship between the learner and his teacher. Educational goals that uphold human values can only be achieved when people have the respect and awe of the educator. Thus it takes the network of science networks that can be utilized by every citizen in need [4].

Ivan Illich’s thought was motivated by the social and political crisis situations in the United States and the failure of educational planning programs that were funded by US agencies in Latin American countries. There was a belief that schools opened up equal opportunities for everyone who wanted to learn. Everyone who wanted to go to school could succeed to be a scientist or a technocrat as long as he got the work practices and lessons he chose. In fact, every opportunity used by A would be detrimental to B. The progress obtained by A in school would limit the equal opportunity for B. The scoring system formed a sort of academic achievement hierarchy. Based on the hierarchy, it was measured by anyone who was scientifically qualified, and who was not.

The Challenges in Indonesia

There are many challenges faced by society. News about violence, fraud, corruption, drugs, free sex and the like are still a lot of coloring newspapers in Indonesia [5].

Recent events in Yogyakarta as well as terror events that have also occurred in several places in Indonesia have shown that violence and conflict have still been widespread in Indonesia. In general, the violence that occur has characteristic terroristic or sectarianistic violence [6]. What often happen are interreligious conflicts (Muslims against non-Muslims). Sectarian-style conflicts, as experienced by Ahmadis and Shiites, are based on interreligious spirit.

Violence can be divided into three stages: first, the stage of radicalism in the form of belief

and thought. This stage is constituted by an exclusive attitude, feeling self-righteous. Other groups are seen with negative labels that do not deserve to be well received and equal. This stage of violence has the most support, though it is not visible visually. This stage of violence can form the basis for the violence at later stages.

The second stage is the violent stage of extremism, which is already in the form of anarchistic actions from conversation to real action. The actors and supporters of this stage are smaller in number than the first stage. The act of physical violence is used to uphold what is right in itself and to combat what is perceived as misguided and wrong in self and other groups. The Islamic Defenders Front (FPI) is included in this stage.

The third stage is the stage of terrorism. At this stage exclusive beliefs are fought through organized and trained weapons struggles, including by using bombs in public places that often cause casualties from innocent people. The perpetrators and supporters of this stage of violence are much less than the previous two stages. But this third stage is often considered the most serious problem and gets the greatest attention from all parties, especially security forces and policy makers.

Nowadays many criminal forms are committed by young people [5]. The development of the times also influence the development of our young people. Globalization and technological advancement not only bring positive benefits, but also have a negative impact on the development of the character of our young children [7]. They are easily influenced by negative things coming from other cultures, which are easily accessible via the internet or through television and movies, such as free sex culture and individualist culture.

The culture of corruption that has been rooted in various layers in the society also gives effect on our youth. At school they cheat on examinations, or just copy-paste someone else's writing, buy an answer sheet of National Examination, falsify laboratory data, etc. The value of honesty implanted in schools simply disappears because of the influence of culture of dishonesty in society.

The violent culture that is widely aired on television, in movies and in print media influences many young people so that they are easily ignited by violence, murder, brawl and other acts of violence. Porn videos which are very easy to get through the internet and the black market make young people easy to do free-sex or gang-rape.

Instant and consumeristic cultures that fill the mass media and become a lifestyle of society also affect our young people. They also follow the instant and consumeristic cultures. They do not want to work hard or struggle, but tend to find an easy way to solve problems through shortcuts.

Looking at those concrete situations of our youth and society as such, we can conclude that it is not easy to expect formal education to educate children to be noble, smart and good. We need character education that serves to form a personal character, to be able to maintain peace and harmony in interfaith communities.

In the following section, we will discuss character education as a means of forming the personality of responsible children.

Character Education

The 1945 Constitution article 31 obliges the government to "establish and conduct a national education system, which increases the faith and piety and moral character in order to educate people, which is set by law." For the realization of the mandate of the 1945 Constitution, the government issued the Law on National Education System in 2003, which is also one of them emphasizes the importance of education to improve moral behavior. In the Law on National Education System no. 20 of Chapter I, Article 1, paragraph 1, education is defined as "conscious and deliberate effort to create an atmosphere of learning and the learning process so that students are actively developing the potential for him to have spiritual power of religion, self-control, personality, intelligence, good character, as well as the skills to build society and nation.

Character is "positive values and attitudes of a person that affect the person's behavior, ways of thinking and acting, and ultimately the character of his/her life" [8]. Character is innate element from birth, some are good and some are not good, which can be developed and changed through education. The task of education is to develop a good character and to help to eliminate bad character. Character education, therefore, is "education aimed at helping students to experience, acquire, and possess strong character" [5].

Educational leader whom we can refer to his views on character education is Prof. Dr. N. Driyarkara, S.J. (1913-1967). Driyarkara was a Jesuit priest who took a doctorate in philosophy at the Pontifical University of Gregoriana, Rome (1950-1952), who later became a professor of philosophy at Saint Ignatius College, Kotabaru, Yogyakarta. In 1955 Driyarkara co-founded PTPG (institute of teacher training) Sanata

Dharma and became its leader until 1967 when Sanata Dharma changed its status into IKIP (Institute of teacher and education) [9].

According to Driyarkara, education is a process of hominization and humanization [10]. "Hominization" comes from the Latin word *homo* (human); it is defined as a general education process that awakens a person as human; while "humanization" derived from the Latin word *humanus* (humanly); it is a further educational process, more specifically, that produces culture and good and measurable behavior that shows civilization. In other words, education is a process of "humanizing young people" or the process of "personization," a process that is constantly perfect to achieve a full personality.

Pedagogical Paradigm of Reflection

To develop a strong character, we need a whole and comprehensive education that touches all student life [11]. The intellectual, social, spiritual, moral, affective, physical, aesthetic, and emotional aspects, all need to be developed. In complete and comprehensive education, critical, innovative, cooperative, honesty, high morality, including computer networking skills, need attention. In whole and comprehensive education many people are involved such as lecturers, scientists, artists, parents, community, businessmen, government, NGOs, and others.

One of the methods to develop a full and holistic education is the method of Pedagogical Paradigm of Reflection, developed by Jesuit education since 1586. This educational method has been practiced throughout the world and is always updated in accordance with current situations and conditions [5].

This learning method invites the students to a deeper understanding of what is experienced, especially looking for what the teaching means in terms of solving problems. Through the learning process, the Pedagogical Paradigm of Reflective can improve the motivation of learning by involving them as critical actors in the learning process. This makes teaching and learning more personal because it brings teachers' experiences closer to the students. This method is a model of the pattern of accompaniment advancement of students both intellectually and emotionally (heart) in order to help to develop them to the fullness of human person [12].

This learning method has an approach that applies reflection in finding the values of life in the educational process as a foothold in determining attitude or behavior. This method helps students nurturing their personality that

upholds the value of humanity. This approach suggests the students to enter into an experience, not only getting some information.

This learning method aims to form a complete human, which consists of 3 C: competence, conscience, and compassion. *Competence* means capability in science or skills according to the field or specialization. *Conscience* means having a conscience that can distinguish between good and bad. *Compassion* means having sensitivity to do for others in need, having concern for others, especially the poor and the needy (option for the poor).

The dynamics of the Pedagogical Paradigm of Reflection consists of three main elements, namely experience, reflection, and action, completed by the element before learning, namely looking at the context and by the element after learning, namely evaluation. Therefore the dynamics of PPR include five elements: (1) context, (2) experience, (3) reflection, (4) action, and (5) evaluation.

In the following section, I will explain the process of each element of the Pedagogical Paradigm of Reflection.

Context

As teachers, we need to understand the context of the students: their environment, their background, their community and their potential, their family, friends, peers, and their cultures [13]. By knowing their context, we can teach them well.

We need to build an authentic personal relationship between teacher and student: mutual trust and respect so that the teacher and students can become genuine companion.

We need to build a conducive environment of the school for integral human growth, in which the moral development and religious formation of adolescents takes place. Thus, a genuine love and personal care for each student (*cura personalis*) is essential for a conducive environment of the school.

We need to talk about values that we want to develop, such as brotherhood, solidarity, respect for others, responsibility, hard work, love, shared interests, respect for the environment, and other values of humanity [14].

Some challenges of Indonesian situation need to be handled to help the students avoiding those challenges, such as enforcement of one culture, corruption, plagiarism, copyright violation, the lack of ethos of study, creativity and critical thinking, looking for certificate instead of competence, instant culture, passivity

in class, copy-paste culture, feudal relationship between teachers and students, and so on.

Experience

In any experience, data is perceived by the student cognitively [13]. Through questioning, imagining, investigating its elements and relationships, the student organizes this data into a hypothesis: What is this? Is it like anything I already know? How does it work? Then there is an affective reaction: I like this. I'm threatened by this. It's interesting. I'm bored.

The Pedagogical Paradigm of Reflection aims to ensure that the student will have a full learning experience of mind, heart and hand [15]. The learning experience is expected to move beyond rote knowledge to the development of the more complex learning skills of understanding, application, analysis, synthesis, and evaluation.

The affective/evaluative stage of the learning process is very important, because the 'sense and taste' can deepen one's experience. Affective feelings are motivational forces that move one's understanding to action and commitment.

The task of teachers is to provide 'experience' for students so that the students can experience by themselves as well as learn and find the meaning of the experience [16].

Human experience may be either direct or indirect [13]. *Direct experience* is experience engaged by students so that they are involved fully. Thus, direct experience usually is fuller, more engaging of the person. Direct experience in education usually occurs in interpersonal experiences, such as conversations or discussions, laboratory investigations, field trips, service projects, participation in sports, and the like.

Indirect experience is achieved in reading or listening to a lecture. In order to involve students in the learning experience more fully, teachers can stimulate students' imagination and use of the senses precisely so that students can enter the reality studied more fully. Simulations, role playing, use of audio visual materials and the like can help students to feel as real "historical settings, assumptions of the times, cultural, social, political and economic factors affecting the lives of people" [13].

Reflection

This is the key to the Pedagogical Paradigm of Reflection. Reflection is "the process whereby the student makes the learning experience his/her own, gets to the meaning of the learning experience for self and for others" [15].

The term 'reflection' means "a thoughtful reconsideration of some subject matter, experience, idea, purpose or spontaneous reaction, in order to grasp its significance more fully" [13].

At this level of reflection, "the memory, the understanding, the imagination and the feelings are used to capture the meaning and essential value of what is being studied, to discover its relationship with other aspects of knowledge and human activity, and to appreciate its implications in the ongoing search for truth and freedom."

This reflection is a "formative and liberating process" [13]. It forms the conscience of students (their beliefs, values, attitudes and their entire way of thinking) in such a manner that they are led to move beyond knowing, to undertake action.

In reflection, students are impelled to consider the human meaning and significance of what they study and to integrate that meaning as responsible learners who grow as persons of competence, conscience and compassion [15].

Reflection is the process by which meaning surfaces in human experience, becomes more clearly. Reflection leads individual to look ahead to build a new framework in attitude, thinking, and behaving. That reflection reconsiders every experience for further development of the self. Reflection leads individual into agent of social transformation. The individual is challenged to reorganize attitudes, thoughts, and behaviors towards others and the environment. Reflection gives individual the power to do something for the sake of a better life. It is a path to pioneering the changing world into a just, peaceful, and loving community [12].

A major challenge to a teacher here is to formulate questions that will broaden students' awareness and impel them to consider viewpoints of others, especially of the poor [13]. It is important to note that teacher may not impose his/her viewpoints. Thus, teacher respects the student's freedom. It is possible that, even after the reflective process, a student may decide to act selfishly and to reject growth.

At this stage, students and teachers can have reflection together, to share their reflections and thereby have the opportunity to grow together. In this case, teachers and students make reflection orally in class. Meanwhile written reflection can also be done as homework.

Action

Reflection in the Pedagogical Paradigm of Reflection should not end only in understanding or affective reactions. The Pedagogical Paradigm

of Reflection, just as it begins with the reality of experience, necessarily ends with that same reality in order to effect it. Reflection is only useful when it fosters decision and commitment [13].

Action is not mere activity. It refers to “the student’s attitudes, priorities, commitments, habits, values, ideals, internal human growth flowing out into actions for others” [15].

Action is the activity of students who want to be done as the practice of knowledge that has just been studied together. Action plans need accompaniment from teachers that can be implemented for real activities outside the class.

The term ‘action’ refers to “internal human growth based upon experience that has been reflected upon as well as its manifestation externally” [13]. It involves two steps:

i) *Interiorized Choices*: After reflection, the student considers the experience from a personal point of view. Here in light of cognitive understanding of the experience and the affections involved (positive or negative), the will is moved. Then the student will make some choices. Such choices may occur when a person decides that a truth is to be his or her personal point of reference, which will affect any number of decisions. At this point, the student chooses to make the truth his or her own, while remaining open to where the truth might lead.

ii) *Choices Externally Manifested*: In time, these meanings, attitudes, values which have been interiorized, made part of the person, impel the student to act, to do something consistent with this new conviction. If the meaning was positive, then the student will likely seek to enhance those conditions in which the original experience took place. For example, if the goal of physical education has been achieved, the student will be inclined to have some regular sport during his free time. If the student appreciates better the needs of the poor after service experiences and reflection on those experiences, this might influence his or her career choice or move him or her to volunteer to work for the poor. If the meaning was negative, then the student will make some changes, avoid the conditions in which the original experience took place. For example, if the student appreciates the reasons for his or her lack of success in school work, he or she may decide to improve study habits in order to avoid repeated failure.

From the process of deep experience, reflected deeply, the students will arrive to action which will change their lives and their attitude to others and to environment. In this ongoing process, the students will be really competent in their fields, being able to explain the matter and

to find its meaning. Their conscience will grow. They will be aware of the good and the bad values, and can decide for the better life. Finally, they become persons who have compassion for others as well as for environment. They are helped to grow more holistic in study, not only in cognitive aspect and skills, but also in morality, spirituality, emotion, psychic, and their inner life. They will not think for themselves, but they will have good will, good character, and especially to have social awareness to think and to act for both others and the nation [11].

Evaluation

Evaluation is a review to know the progress achieved in both student and teacher learning. The focus of assessment is not only academic but also the growth and development of students as a whole both as personal and social beings. Evaluation aims to assert the already good, and to correct the still lacking for improvement.

It is important to evaluate a student’s progress in academic achievement. Daily quizzes, weekly or monthly tests and semester examinations are familiar evaluation instruments to assess the degree of mastery of knowledge and skills achieved. Periodic testing is useful for the teacher and the student both to intellectual growth and to the shortages which are necessary to be improved. Feedback can alert the teacher to improve methods of teaching and the student to be encouraged and advised for academic improvement.

The Pedagogical Paradigm of Reflection, however, “aims at formation which includes but goes beyond academic mastery. Here we are concerned about students’ well-rounded growth as persons for others. Thus periodic evaluation of the student’s growth in attitudes, priorities and actions consistent with being a person for others is essential” [13]. Comprehensive assessment needs to be planned at intervals, at least once a semester.

There are many ways to assess the fuller human growth. All must take into account the age, talents and developmental levels of each student. Useful pedagogical approaches can be applied, such as mentoring, review of student journals, student self-evaluation in light of personal growth profiles, as well as review of leisure time activities and voluntary service to others.

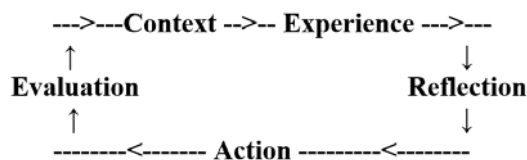
Based on the above exploration on the Pedagogical Paradigm of Reflection, we can summarize that learning is:

- situated in a specific context;

- rooted in previous experience and the result of new learning experiences;
- dependent upon – and deepened by – reflection about those experiences;
- made meaningful when new knowledge is put into some kind of action;
- reinforced by explicit evaluation (and ultimately, self-evaluation) of those actions and the degree to which learning has occurred [15].

Ultimately, these five elements should be understood as representing a process, not a prescription, for teaching. They function not as discrete segments or stages of a linear process, but as interdependent facets of any deep learning experience.

The Pedagogical Paradigm of Reflection can become an effective ongoing pattern for learning as well as a stimulus to remain open to growth throughout a lifetime [13].



The Benefits of Pedagogical Paradigm of Reflection

The continual interplay of context, experience, reflection, action and evaluation provides a pedagogical model that is relevant to our cultures and times. It is a substantial model of the teaching-learning process [13]. It addresses the importance and integrity of the interrelationship of teacher, learner and subject matter within the real context in which they live. It is comprehensive and complete in its approach, explaining the method of teaching in practical and systematic ways while, offering the means of our educational mission of forming young ‘men and women for others.’

It enables teachers to enrich the content and structure of what they are teaching. It gives teachers additional means of encouraging student initiative. It allows teachers to expect more of students, to invite them to take greater responsibility for and be more active in their own learning. It helps teachers to motivate students by providing the occasion and rationale for inviting students to relate what is being studied to their own experiences.

It asks students to reflect upon the meaning and significance of what they are studying. It attempts to motivate students by involving them

as critical active participants in the teaching-learning process. It aims for more personal learning by bringing student and teacher experiences closer together. It invites integration of learning experiences in the classroom with those of home, work, peer culture, and so on.

It encourages close cooperation and mutual sharing of experiences and reflective dialogue among students. It relates student learning and growth to personal interaction and human relationships. It proposes movement and progress toward action that will affect the lives of others for good. Students will gradually learn that their deepest experiences come from their relationship with and experiences of persons. Reflection should always move toward greater appreciation of the lives of others, and of the actions, policies or structures that help or hinder mutual growth and development as members of the human family. This assumes, of course, that teachers are aware of and committed to such values.

2. Conclusion

In our contemporary world, the Pedagogical Paradigm of Reflection can be an immense help in winning the minds and hearts of new generations; for the Pedagogical Paradigm of Reflection focuses upon education of the whole person, heart, mind and will, not just the intellect [13]. It challenges students to find meaning in what they study through reflection rather than rote memory. It encourages adaptation which demands openness to growth in all of us. It demands that we respect the students at varied levels of their growth; and the entire process is nurtured in a school environment of care, respect and trust, where the student can honestly face the challenges to being human with and for others.

Thus, the Pedagogical Paradigm of Reflection is a pedagogy which can help students growing more holistic in study, not only in cognitive aspect and skills, but also in morality, spirituality, emotion, psychic, and their inner life, because this paradigm can help students being competence in their fields, help them to build their conscience, to have good will, good character, and especially to have social awareness to act for others.

Hopefully with the cooperation and the seriousness of the lectures and students in implementing the Pedagogical Paradigm of Reflection, the students are helped to become a whole person and devoted to others [16]. In the midst of the Indonesian situation that needs people who are sensitive to the needs of others, especially those who are poor and displaced,

hopefully with this approach, many students are increasingly sensitive to others and are involved in developing our nation. Hopefully there are more students who have good characters to enhance the unity of the nation.

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THE IMPLEMENTATION OF LEARNING MATERIALS IN ELEMENTARY SCHOOL: THE ANALYSIS ABOUT STUDENTS' CRITICAL THINKING SKILLS

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Abstract

Since 1945 to 2013, Indonesia has experienced curriculum changing for eleventh times. Nowadays, the used curriculum in Indonesia is the 2013 Curriculum and KTSP. The 2013 Curriculum is the curriculum that has been implemented in some chosen schools in Indonesia. The learning instruments of the 2013 Curriculum have been provided by the government, one of them is learning materials. Learning materials provided here are the teacher's books and students' books. This research aimed to: 1) analyze the learning materials in Elementary School; 2) describe the needs of learning materials in Elementary School to develop students' critical thinking. This is a qualitative method. The data resources of the research were teachers, headmasters, and the documents of learning instruments. The data collecting used observation, interviews, and documenter study. The data validity testing used triangulation, both of technique triangulation and source triangulation. The data analysis technique used was interactive data analysis technique by Miles and Hubberman. The results showed that the learning materials in the Elementary School have developed a thematic learning but did not to the maximum stage in improving students' critical thinking skills. Teachers' need of learning materials enhanced critical thinking skills. Critical thinking skills could be developed using a learning model based on the constructivism learning theory, where the students built their own knowledge. One of the learning models is discovery learning. The steps of discovery learning were stimulation, problem statements, data collection, data analysis, verification, and drawing conclusion. Discovery learning showed that the students should discover their own knowledge by themselves. For elementary students, the discovery still needed teacher's guidance. Therefore, discovery learning recommended for learning materials because it can improve students' critical thinking skills.

Keyword: learning materials, critical thinking, and discovery learning

1. Introduction

Curriculum is regarded as a system that organizes the learning process. Curriculum also can be regarded as a tool which is used to acquire educational objectives. Since 1945 to 2013, Indonesia has been experiencing curriculum changing for the eleventh times. It shows the effort of the government to improve educational aspect in Indonesia. The improvement in the educational aspect conducted by the government clearly has a purpose in order Indonesia be able to create good human resources.

The 2013 curriculum is not a completely new thing in Indonesian's educational world. This curriculum has been implemented in some chosen schools. The government plans to implement the 2013 Curriculum altogether in Indonesia. Therefore, for some schools which have implemented the 2013 Curriculum will be regarded as model schools.

The 2013 Curriculum is a curriculum that implementing scientific approach. The steps of scientific approach are observing, asking, reasoning, trying, and communicating. Those steps are supposed to be able in improving students' critical thinking skills.

Students' critical thinking skills ability should be built since the early stage. It is needed in this globalization era which it needs competence of human resources products and has skills in every life aspects. It becomes the schools' responsibilities to sharpen students' abilities in order to enable them to compete in the globalization era.

One ways to train the students in critical thinking is by using implemented learning materials. It is because the learning materials have important roles for both teacher and students. Learning recourses are the manual for the teachers in order to guarantee the learning process can be conducted effectively and

interactively. Besides that, learning materials for the students can help them to learn autonomously.

The learning materials used in the 2013 Curriculum are thematic learning materials. Thematic learning materials used are learning materials which hire a theme to integrate some subject matters. It is conducted to ease the students in learning.

Learning materials are one of the important components in conducting learning process to acquire learning objectives and all at once as an effort to reach national educational objectives. Regarding the importance of these learning materials, thus this research focuses on learning materials used in the schools that implement the 2013 Curriculum.

The findings about learning materials in the school with the 2013 Curriculum showed that the learning materials were not enough to improve students' critical thinking skills. Therefore, it is needed learning materials that enable to improve students' critical thinking skills. This research aims to: (1) analyze the learning materials in Elementary School; (2) describe the needs of learning materials in Elementary School to develop students' critical thinking.

2. Method

Research method used in this research was qualitative research method. Qualitative research was a research with the purpose to understand the phenomenon about what happen to the research subject. Qualitative research method was used since it was regarded as the most suitable method for this research.

The research was carried out in elementary schools in Gemolong Districts which has implemented the 2013 Curriculum. The data sources in this research were the headmasters and fourth grade elementary schools teachers in Gemolong District which have implemented the 2013 Curriculum.

The data collection techniques used was observation, interview, and documenter study. The interview was conducted in the beginning stage of the research to find out the condition and the need of learning materials in the fields. The subjects of the interview were fourth grade teachers and the headmasters of the schools which has implemented the 2013 Curriculum. The interview was conducted orally and face to face. Meanwhile, the observation hired in the introduction study stage was a non-participative observation, where the researcher did not join the learning process but just observing the learning process in the classroom. The documenter study

carried out by analyzing some documents related to the learning materials such as, syllabus, lesson plan, and learning materials used by the teachers.

The instruments needed in data collection were the interview guidelines and observation guidelines. The interview guidelines which were used contained some main questions to be developed according to the condition. The recording or noting of the data when conducting the interview was done in order to look back the needed data and to ease the researcher to analyze the obtained data. The conducted observation was a non-participatory observation, where in this observation, the researcher did not join in the learning process, but just observe. The instruments needed when conducting observation was observation guidance in which contained the outline of the observed learning activities. When conducting observation, it also needed field note that could be used when the observation was taking place to write the important things as the results of field observation.

The validity test was analyzed using data triangulation. The data triangulation was not only used to analyze the data but also to enrich the data. The data triangulation used in this research was technique triangulation and source triangulation. Technique triangulation in this research used interview, observation, and documenter study. Meanwhile, the source triangulation in this research used informant, in this case were the teachers and the headmasters.

The data analysis used was interactive model data analysis. Qualitative data analysis in this research used interactive model by Miles and Hubberman (1984) that consisted of data reduction, data display, and conclusion [1]. The data reduction was an activity to re-summarize the field notes by choosing the important things and focused on related research matters. The data reduction had a purpose to create the clear images and to ease the researcher in collecting the next data. The data presentation in the qualitative research runs narrative in order to understand what happen and to plan the next work. The conclusion drawing and verification in qualitative data were used to obtain the research results based on the problem statements.

3. Results

The data on the field showed that there were some chosen schools which had implemented the 2013 Curriculum. The facts of the field also showed that those schools had owned learning instruments provided by the government. One of the learning instruments provided by the

government was learning resources in the form of teacher's book and students' book.

The documenter study result data toward learning materials being provided were not suitable with the needs of the 2013 Curriculum. The 2013 Curriculum actually needed learning materials that enable to improve students' critical thinking skills. However, based on the conducted documenter study, it showed that the provided learning materials did not yet improve students' critical thinking skills to the maximum.

These facts were strengthening with the results of the observation. The results of the observation showed that in the process of learning, the students' critical thinking skills had not been treated to the maximum. In the learning process, just few of the students who actively involved in the process, while the others tended to be passive. It was clearly shown when the teacher asked some questions that required them to think critically, but only some of them willingly and was able to answer. As the result, there was imbalance between the active students and the passive students in the learning process.

The result of the observation in some classes also showed that in the learning process, the teachers just hold on to the teacher's book without using the lesson plan. The result of the interview to some of the teachers showed that actually the teachers had lesson plan, but to conduct learning process was enough just by using the teacher's book as the guidance. Thus, the conducted learning process had not yet be able to improve students' critical thinking skills since the teachers did not develop learning process instead of just following the groove of the teacher's book.

The result of the interview with some teachers showed that the teachers agreed if the learning in the 2013 Curriculum should train students' critical thinking skills. However, the teachers had difficulties to improve students' critical thinking skills. They acknowledged that all these years their ways in improving students' critical thinking skills were just by giving questions or giving problem examples to the students and then asked them to find the solution of those problems. However, the teachers explained that at that time, it was carried out since there were few students who were actively involved. Whereas, the demanding thing was all of the students could be actively involved in the learning process.

The data obtain from the field showed that beside it had not yet showing students' critical thinking skills, the learning materials in elementary schools which had implemented the 2013 Curriculum had other deficiencies. Those

deficiencies laid on the materials in the book. The learning materials in the 2013 Curriculum had not been enough.

The result of the interview with the headmasters showed that the learning materials were not enough. It is because the materials which were delivered in the learning materials were just the outline of the materials. Thus, in the implementation, the teachers needed supporting books or supplement books to broaden the materials taught to the students.

In line with the headmasters' explanation, the result of the interview with the teachers who implemented the 2013 Curriculum also complained about the learning materials in the students' book. According to them, the content materials in the students' book were not deep or not wide. They also added that the less broad of the learning materials resulted in the students' difficulties in doing the examination test, especially in the midterm test and final test. Therefore, the teachers needed other referenced books in conducting learning process.

The teachers could deepen the materials by using references or other learning materials. However, based on the conducted observation, it showed that the learning materials used by the teachers to deepen the materials were the books for KTSP. Whereas, the 2013 Curriculum implemented thematic in the process, while KTSP did not implement thematic. This caused the conducted learning process were not suitable. The conducted learning process could be said as less suitable since the learning process used thematic based while the supplement books used by the teachers were KTSP books.

Even though KTSP books which were used just to support the learning process, but it could cause another difficulty, such as the teachers were hard to come back to the theme or reconnected the materials between one subject to another. Whereas, the ideal thematic learning was the interchange between one subject to another less viewed, in order to keep the students stayed focused to the taught theme without separate the competencies or contents of the subject.

The 2013 Curriculum used thematic in the learning process. Thematic learning used a theme as the umbrella from various subject matters, where the theme contained some competencies which were should be mastered by the students. Through thematic, there also was scientific approach that had stages as followed: observing, asking, and information collecting, associating, and communicating.

The implementation of scientific approach was in line with the 2013 Curriculum which was

basically demanded students' autonomous in learning and demand the students to think critically. Since the role of the teachers regarded as the facilitators whom had a duty to provide learning experiences, learning activities, students' knowledge stimulating tools, and monitor and evaluate students' learning results. Thus it was needed a learning model that enable to help the teachers to create their roles altogether to help the students to be autonomous in learning and to improve students' critical thinking skills. Autonomous learning model that was suitable with the 2013 Curriculum was the learning model based on constructivism learning theory. Constructivism learning theory believed that knowledge as the product of we construct that involved the five senses and our experiences.

One of the learning models based on the constructivism learning theory was discovery learning. It is because in the discovery learning, the students were demanded to do the discovery activities as the effort to build their own knowledge to create meaningful learning and the results of the learning could hold on much longer compared to the conventional learning model.

The reason for using discovery learning in this research was because discovery learning was viewed as the most suitable to support the run of thematic learning in which has been implemented in the elementary schools. The suitability between thematic and discovery learning was seen from the use of scientific approach in the thematic learning. The students' activities through scientific approach were one of the efforts to train autonomous and improving students' critical thinking skills in learning. It was in line with the discovery learning which demanded the students to create their knowledge by themselves through activities of observing and trying. Thus, it could be concluded that both in the scientific approach and discovery learning, stressed more on the students' autonomous which could improve students' critical thinking skills. Therefore, discovery learning based materials were the most suitable for improving students' critical thinking skills.

4. Discussion

The 2013 Curriculum regarded as the perfection of KTSP and one of the government's efforts to improve educational in Indonesia [2]. The 2013 Curriculum also considered as the effort of the government to obtain the educational objectives as stated on UU No. 20 Year 2003. The 2013 Curriculum forms competencies and students' characteristics by combining knowledge, skills, and behaviors which are can

be demonstrated by the students as the shape of their understandings toward the concept that are learnt contextually [3]. It is in line with the results of the research which shows that in the 2013 Curriculum, the students' competencies development are not only in the area of cognitive competencies, but also in the area of affective competencies as well as psychomotor competencies.

The combination between competencies and students' characteristics in the 2013 Curriculum can be seen from the learning materials used. One of the benefits of the 2013 Curriculum is the components of the text books and the guidance of the discussion has been provided [4]. This is in line with the results of the research that shows there is a complete learning instrument for the schools that have implemented the 2013 Curriculum. However, those learning instruments have some deficiencies in which one of them is the lack of number of teachers who analyze the standard competencies, basic competencies, and main competencies of students' book and teacher's book [4]. In result, when conducting learning process, the teachers just follow the learning guidance provided without being developing it.

The learning activities stated in the books are actually quite good, but if the teachers do not develop it, the learning process does not improve students' critical thinking skills. Thus, the conducted learning process seems to be monotonous since the teachers only follow the learning steps stated in the books. Meanwhile, to improve students' critical thinking skills, the teachers need to do the learning process that demand students' autonomous.

One of the ways to improve students' critical thinking skills is by using learning materials. Learning materials regarded as the material forms or learning materials which are arranged systematically and are used to help the teachers in learning process, in order to create the environment or the atmosphere that enables the students to learn [5]. Learning materials are also considered as programs arranged by the teachers in order to develop knowledge, skills, and students' positive behaviors toward learning which is demanded by the curriculum [6]. It shows the importance of learning materials in the classroom learning process, since the learning materials help the teachers and the students to conduct leaning activities in the classroom.

The learning materials also can attract students' learning passion and ease the teachers to develop students' cognitive abilities so the conducted learning can be meaningful [7]. The results of the field observation shows that

learning materials used by the teachers can develop students' cognitive abilities through the materials stated in the books. However, the students' cognitive abilities have not been develop to the maximum since the current learning materials have not yet perfectly improve students' critical thinking skills.

Critical thinking skills are generally considered a desirable outcome of the educational process [8]. It is because, critical thinking is considered the highest intellectual activity in human interaction and enables people to engage in the process of making meaningful decisions [9]. Critical thinking skills should be part of student's learning and schools should be responsible to develop and evaluate critical thinking skills through teaching and learning process [10]. Critical thinking is learning to interact with information actively to bring pros and cons, evaluate them to determine the truth, transform information and generate new ideas [11]. Therefore, critical thinking skills are needed to be learnt from the early stage, especially since the elementary school.

Elementary schools are considered as the places to train students' critical thinking skills. The teachers should give effort to create more interesting and meaningful learning. One of the ways that can be done by the teachers are trying to have all students focused, motivated, and engaged to learn each day [12].

Students' critical thinking skills can be trained by creating active and fun learning atmospheres in order the students are able to focus, being motivated, and being bind with the learning process all day long. In order to create the active and fun learning process, the teachers can use learning materials as the instruments to improve students' critical thinking skills. However, the result of the research showed that students' critical thinking skills have not been arisen to the maximum in the used learning materials.

Bruner explains that the teachers should modify the information to be taught in certain format to ease the students in understanding the delivered information [13]. Based on the statement above, it means the teachers should try to develop the learning materials in order to ease the students in processing the information. The learning materials which are developed also should pay attention to the learning material development principals. Based on [14] materials should be clearly linked to the curriculum they serve; materials should be authentic in terms of text and task; materials should stimulate interaction; materials should allow learners to focus on formal aspects of the language;

materials should encourage learners to develop learning skills, and skills in learning; materials should encourage learners to apply their developing skills to the world beyond the classroom.

Critical thinking is a fundamental skill that develops early learning exercises and attractive activities, teaching and learning methods as diverse and varied, depending on the actual educational situation and critical thinking development stage [11]. Based on [11] critical thinking can be presented to the students both in the form of physically activities and mental activities. The learning model that is suitable are the learning models based on the constructivism learning theory.

Learning in constructivist term is: Both the process and the result of questioning, interpreting, and analyzing information; Using this information and thinking process to develop, build and alter our meaning and understanding of concepts and ideas; Integrating current experiences with our past experiences and what we already know about a given subject [15]. Constructivism learning theory is very suitable to train students' critical thinking skills; since this theory considers that the students should form and construct their own knowledge. The teachers in the constructivism theory are regarded as facilitators to help the students build the knowledge.

Constructivism learning theory has one of the learning models that are suitable to improve students' critical thinking skills that are discovery learning. The educational process consist of providing aids and dialogues for translating experience into more powerful systems of notation and ordering [16]. There is a vast amount of skilled activity required of a 'teacher' to get a learner to discover on his own scaffolding the task in a way that assures that only those parts of the task within the child's reach are left unresolved, and knowing that elements of a solution the child will recognize thought he cannot yet perform them [17]. Based on [16] and [17] discovery learning is highly recommended as the learning materials since it can improve students' critical thinking skills.

It is in line with the results of the observation that shows the students are more enthusiastic when they join the learning experiments activities rather than just listen to the teachers' explanation. It is because, when the students do the experiment, they get new experiences and skills. Experiments also can give better learning experiences to the students, since the students collect the data and then analyze it and draw the conclusion.

The steps of discovery learning include stimulating, problem stating, data collecting, data analyzing, verification, and conclusion drawing. Those steps can be used as the instruments for the teachers to improve students' critical thinking skills. However, in the process, the teachers still need to guide and direct the students, in order to keep the flow of the learning process.

Actually, the learning model that is based on the constructivism learning theory is not only discovery, but also inquiry. Based on the meaning of the word discovery, it has a meaning of finding, while inquiry means investigate. The inquiry training model can be highly structured, with the teacher controlling the interaction and prescribing the inquiry procedures [18]. Thus the inquiry is less suitable to be used for the elementary school students since in the process of investigating demands high thinking structure, while in the age of elementary students, they are not able yet to do it by themselves. Therefore, in this research uses discovery to suit with the thinking stage of elementary school students.

According to the Piaget cognitive development theory, the children at the age of 7-11 have the concrete operational thinking where the children can think logically about the concrete events and clarify the things into difference forms [19]. Ref. [20] states that cognitive level of the elementary school students in seeing the surrounding world as holistic, beautiful, playful, and concrete, thus the students at that age cannot understand the concept without the presence of real and contextual things. Based on the students' thinking level, thus discovery learning is highly recommended in developing the next learning materials.

The development of learning materials can be done by the teachers through teacher's network. Teachers' networks are important when choosing teaching and learning materials [21]. It shows that that teacher's network has the important role for the teachers, since through this network, these teachers can give data to each other and communicating their learning experiences. It has the same results of the research that is the presence of the routine meeting conducted by the teachers in Gemolong District who implement the 2013 Curriculum. The meetings are carried out once in two weeks on Saturday. The meetings are usually called as KKG that are presented by the teachers and the representation of UPTD. The meetings are regarded as the mean of communication among teachers to discuss the learning problems arise in the classroom and to find out the solutions. KKG also was able to provide motivation and fun atmosphere for

participants as long as they follow the activities and training [22].

5. Conclusion

Learning materials in the Elementary School has developed a thematic learning. However, the current learning materials have not yet in the maximum stage to improve students' critical thinking skills. Actually the elementary school students should be trained to think logically in order they are used to critically think the next days. Therefore, the teachers need learning material that can be used to improve students' critical thinking skills.

The learning theory that is suitable to improve students' critical thinking skills is constructivism learning theory. It is because, constructivism learning theory sees the needs of students to build the knowledge by themselves in order that knowledge can be meaningful and long lasting. One of the learning models based on the constructivism theory that improve students' critical thinking skills is discovery learning.

Discovery learning can improve students' critical thinking skills. Discovery learning demands the students to do some steps to obtain their own knowledge by the teachers' help. Those steps include stimulating, problem stating, data collecting, data analyzing, verification, and conclusion drawing. Those steps are seen to be able to improve students' critical thinking skills.

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THE ISLAMIC BOARDING SCHOOL AS A CENTER OF CULTURE, COURTESY AND ART

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Abstract

The Islamic boarding school born on the basic of obligations of propaganda Islamiyah, all at once spread and develop the teachings of Islam, as well as scoring a cadre of scholars or da'i. In general boarding schools can be classified into two, namely salaf pesantren (traditional Islamic boarding school) and khalaf pesantren (modern boarding school). Civilized culture is a culture that is only possessed by humans. With the culture which is owned by the community or communities will the birth lifestyle, system of values, thinking, knowledge, certain norms are measured and realized according courtesy corridor that compliance with the courtesy it showed a better condition than before. In the context of Islam, then Islam is not born out of culture, but Islam that gave birth to the culture and the result is an Islamic science. Between culture and courtesy have a strong bond, culture is a number of all the results of the copyright insani and ways to adapt to the circumstances and his life. As for the courtesy myself is an introduction and recognition of the right state of things and the position of a person who arranged rated in the dignity and the degree of which is a nature apply in the nature of the universe. From this it can be understood that the Islamic boarding school expected to produce because of the element courtesy culture and art in it. If there is no culture and art then it will not probably be able to adjust to the circumstances and his life. Basically every culture anything that is not accompanied by culture and art will be wild, and it directly affects only recognize a single object, whether it is the introduction of no recognition or otherwise. Courtesy and art itself already includes cultural values either directly or indirectly. In the Islamic context it can be said that without culture is impossible to be born the Islamic culture, Islamic identity and eventual revival in accordance with Islam. The world boarding school is no longer an exclusive and was considered the periphery. But that is regarded as one alternative for Developers College in the future.

Keywords: Islamic Boarding School, Culture, Courtesy and Art

1. Introduction

Education is developed to develop the ability and form the character and civilization of a dignified nation in order to educate the life of the nation, develop the potential of learners to become human beings who believe and pious to God Almighty, have noble character, healthy, knowledgeable, capable, creative, independent, and become a democratic and responsible citizen. Islamic education is developed to glorify human beings or humanize humans. It should be for an educated person that means the knowledgeable person, who understands and understands the provision to improve the dignity and human dignity. Human dignity and dignity are built by faith and virtue. A good measure of manners is compatible with religious guidance, prevailing rules, and norms in society. (Basri, 2010: 29).

The Qur'an became the basic and original source of Islamic education, more encouraging to

the thought and contemplation of Allah's creation and its beauty in this universe. In the early period of Islamic education is very concerned about the activities of educating children to live a true religion so that they grow into adults who have noble character, and conduct activities of his life according to true religious norms (Al-jumbulati, 2002: 12).

Islamic education in our country is very declining which is happening today. The number of children who do not have the right adab because of the influence of environment around them or the influence of social media. However, in our country has established many educational institutions such as boarding schools that educate morals, adab and morals of students to be better. Islamic Boarding School community educational institutions to the corners of the plot the homeland of Indonesia that educate children of a religious and character of the nation.

Islamic Boarding School is a place for students to study Islamic religion. The word *pesantren* comes from the word "*santri*", meaning students who study Islamic religion. Then, getting the prefix of the suffix *-an*, became an apprentice. Letter *i* and *an* change so that the term apprentice becomes Islamic Boarding School. Called *pesantrian* or Islamic Boarding School because all students who study or *tholabul 'ilmi* in Islamic Boarding School called *santri* term. Unknown to students or students. The term *santri* concept is raw, although its meaning is the same as students, students or students. The term apprentice (*santri*) has a substantial difference with the students or students. The apprentice (*santri*) only applies to students studying in Islamic Boarding School and the object of study that they study Islamic religious knowledge, while students or students are generally applicable to all learners, who are not specifically studying Islam (Basri, 2010: 227).

Man is called as a cultured creature is none other than a creature that always utilizes his mind to create happiness, because the happiness of human life is essentially something good, right and just, then only people who always try to create goodness, truth and justice are entitled to bear a cultured human title. Culture is a way of life that is developed and shared by a group of people and passed down from generation to generation. Cultures are made up of many intricate elements, including religious and political systems, customs, language, tools, clothing, buildings, and artwork.

By being cultured, man can meet the needs and answer the challenges of his life. Man is different from other creatures. Human beings live according to the existences and cultures that are applied in the environment. Therefore, humans must socialize and meet behavior that has been socialized by the people before. Those who do not exercise or oppose the existing culture and culture will be considered savage men. Along with the development of knowledge and cultural civilization, there was a cultural evolution that causes some problems that we must review and think together the solution.

In the context of our nation, Indonesia, Islamic Boarding School is not only to build a scientific tradition with *kiai* and *ajengan* as the intellectual center of *par-excellent*, but also to build a tradition and culture that position society not only as objects but as subjects simultaneously formulate cultural strategies. Here, creativity in traditions and cultures is concerned with the macro context of the changes that exist in the diverse layers of society.

On the other hand, various models of tradition and culture have been the subject of the culture spirit of the Islamic Boarding School itself. Between the scientific tradition and cultural transformation within the boarding school community are complementary, mutually supportive, and touch each other.

From the basic idea above, the boarding school on every movement of his journey wants to bring together the tradition of science and cultural transformation as an initiative to spark ideas or ideas that the *pesantren* community itself, whether consciously or not, is often denied as well as marginalized.

From here, too, some founders of Islamic Boarding School try to arrange ideas and thoughts that are emancipatory and explorative. Either religious or cultural; Closer to our big religious problem, leads more to the cultural phenomenon, or whether all of the above questions are to be fought in one moment "**Islamic Boarding School as a Center for Culture and Art**".

2. Method

The type of research conducted by researchers is qualitative research, which consists of; **(1). Field research**, ie data collection techniques in which researchers observe and participate directly in small-scale social studies and observe local cultures. In a simple method Field observation research field (Field Research) can be defined that is directly held observations to obtain information required in the preparation of scientific research. **(2). Library research**, is a data collection technique with which researchers observe and participate directly in small-scale social studies and observe local cultures and conduct a review study of books, literatures, records, and reports Has something to do with the problem solved (Nazir, 1988: 111).

There are at least four main characteristics of literature research that need to be considered by students or prospective researchers and the four characteristics that will affect the nature and manner of research are: (Mestika, 2008: 4-5)

1. The researcher deals directly with the text (*nash*) or numerical data rather than by direct knowledge of the field or an eye witness of an event, person, or other object. The text has its own characteristics and requires its own approach as well. Textual criticism is a method commonly developed in the study of physiology, etc. So the library is a literature research laboratory and therefore text reading techniques

(books, articles, and documents) are a fundamental part of literature research.

2. Reader data is ready (ready mode): researchers do not go anywhere except just face to face with the source material already available in the library. The only way to learn to use them properly is to use them directly. Nevertheless, prospective researchers who want to take advantage of library services, of course still need to know the ins and outs of library studies for the benefit of research or making papers. 3. The library data is generally a secondary source meaning: that the researcher obtains the material from the second hand and not the original data from the first hand in the field.

4. That condition of library data is not limited by time and space. The researcher deals with static info: it still means that whenever He comes and goes the data will not change because it is already a "dead" data stored in a written record (text, numbers, pictures, tape or film recordings).

Systematics in the study of literature is intended as a research process by using methods, approaches, ways, and analysis tools are designed and applied appropriately.

Regarding the analytical tools that must be used, of course, the approach with literature study is different pattern of work when compared with the study of non-literature. The analytical tools in literature study are:

1. Comparative analysis, namely: by comparing the object of research with the concept of comparison. In this research will be produced 2 possibilities:

a. The conclusion states that the concept under study is similar to the concept of comparison, and
b. The observed conclusions reveal the inequality. The main purpose of this kind of research is to compare whether the case studied has similarities to the concept of the test.

2. Historical analysis, namely: by way of analyzing the events of the past to find out why and how an event that has happened. The results found useful to determine whether the sequence of events is very important to be a consideration in decision making.

3. Results

Culture

Society in general would have known what it is culture, whether it is directly or indirectly. At least human intersections with these cultures actually have a positive enough impact for the development of reason. In addition, humans are also called the cultured beings for utilizing the mind-fikirnya to always create good-goodness continuously.

In general, these words of culture have cultural roots that mean reason, reason, customs, something about the growing culture (civilized, advanced), something that has become a habit that is difficult to change. Meanwhile, the word culture itself has the meaning of the activities and the creation of human mind (mind) such as trust, art, and customs. Overall human knowledge as a social being used to understand the environment as well as experience and which is the guideline of his behavior.

Meaning of the word culture in Arabic there are several words used for the meaning of culture, among others *Ats-Tsaqafah* (الثقافة), *Al-Hadlarah* (الحضارة), *Al-Madaniyyah* (المدنية), or *At-Tamaddun* (التمدن). The word *Tsaqofah* comes from the verb *Tsaqifa* (ثقف) which has the meaning of thinking, intelligence, improvement, adjustment, specific adjustment, and culture. The last two words are words that come from the same just change shape.

The root of the word *madana* is then born the noun *tamaddun* which literally means civilization (civilization) which means also city based culture (city base culture) or city culture (Fahmi, 2015: 5).

Once we know the operational definition, of course, it can be understood by the purpose of culture, but it should be remembered that each region has its own language in translating this *tamaddun*, that is based on their respective territories.

Some figures also have their own views on culture or culture. According to Koentjoroningrat, etymologically the word culture comes from Sanskrit, *budhayah* which is the plural of the word *budhi* which means mind or reason. Thus the culture can be said "matters of reason and reason." Because it is related to the mind and human reason, the scope is so vast (Journal Walisongo, 2011; 11).

Koentjoroningrat states that the culture has at least three forms;

1. The form of culture as a complex of ideas, ideas, values, regulatory norms and so forth.
2. The form of culture as a complex of activity, patterned behavior of humans in society.
3. The form of culture as objects of human works.

(Journal of Walisongo, 2011; 11)

While Selo Soemardjan and Soeleman Soemardi formulated that culture are all the work, taste, and creation of society. The work of society produces technology of material or physical culture needed human to control the natural surroundings so that the power and the results can be enshrined for the purposes of society (Ranjabar, 2006: 21).

Regarding this culture is not only the local Indonesians who speak, but from Western figures there are also many who have different opinions about the culture, but in essence toward the same point.

When we talk about cultural issues, of course, can not be separated from the role of Muslims, especially from the leaders who also have views about this culture. One of the leaders who speak loudly about culture is the greatest intellectual of this century, that is Prof. Dr. Syed Naquib Al-Attas, according to his views, culture is the sum of all human creativity and ways of adapting himself to his circumstances and life (Naquib Al-Attas, 2001: 66).

Prof. Dr. Syed Naquib Al-Attas adds that "The meaning which is meant in the ideology of **'all creation of human beings'** has also been erroneous by incorporating the religious ideology as part of the culture". The point of this is, that there are some opinions that assume that religion is part of the culture. Even some are born from the culture itself (Naquib Al-Attas, 2001: 66).

Islam has a meaning far from it, that Islam is what causes the culture, not the opposite (culture that gave birth to Islam). Society is then affected by Islam in all areas of his life. And the influence and creation of Islam which is meant as Islamic culture. Still according to Al-Attas, the culture is roughly divided into two real parts: the object and no object (Naquib Al-Attas, 2001: 66).

Based on some of the above description that culture is only owned by humans. Given the culture possessed by a particular community or community, will give birth to patterns of life, value system, thought, knowledge, norms better than ever. In the context of Islam, then Islam is not born from culture-but Islam is what gave birth to culture and the result is science and so forth.

Basically about the definition of operational culture is not much there perbedan the naked eye, it's just that should be memahmi is when we talk about culture then as a Muslim should involve elements of Godhead, not vice versa. The one who can shape culture or culture is man himself, through civilized groups and individuals.

In our simple thought, if culture itself is associated with civilized cultures then, inculcate a civilized culture with all its potential in order to become a full generasi. In every high culture, of course, it has put forward the existence and high art of each generation.

According to Dadan Wildan (in Muhammad Suidat, 2017) that "A. Hassan initiated the establishment of an educational institution called " Islamic Boarding School Unity", on March 4, 1936 (10 Dhul-Hijjah 1354

H). A. Hassan poured his educational concepts in a Qanun / regulation whose contents, among other things, regulate curriculum and education system based on adab. In some qanun, for example in Qanun chapter three mentioned the purpose of Islamic Boarding School and general description of the sciences to be taught, namely:

"This pesantrenen toejoennja merely wants to mengeloearkan moeballigh-moeballigh by teaching Arabic and its tools and the perla of Islamic scholars, and a little from the lessons of other religions, and a little of ilmoe menghitoeng, jiografi, ilmoe alam And others that will help a moeballigh in his work. "

Cultural form is divided into three, namely in the form of ideas, behavior and the physical/material. As the culture develops to its peak, then cultural forms such as ideas, behaviors and cultural products become evidence of the culture's owners have a high adab (Sri Wuryaningsih, 2010: 9). The form of culture in the form of this system of ideas (ideas) is abstract, commonly also called the system of cultural values, such as ways of thinking.

The form of culture in the form of behavior in the system of action is concrete. Behavior of this behavior, such as investigation. Scientists, using certain skills in conducting investigations to uncover these natural phenomena, are preceded by observation.

Islamic Boarding School

Islamic Boarding School is an Islamic educational institution that grows and is recognized by the people of Indonesia by using the boarding system (pondok) which apprentice receive education and teaching of Islam through congregation classical Islamic scriptures and/or Madrasah education under the leadership and upbringing by one or several **kyai** Which is characteristically independent and full of simplicity.

Prophet Muhammad SAW has implemented Islamic education with direct learning system to print the cadres of successor of Islamic leadership with the education held by the Messenger of Allah then appeared the Sahaba and Tâbi'in who are experts in various Islamic religious disciplines both tafsir, hadith, fiqh, (Zaini, 1999: 77).

Jusuf Amir Faisal stated that Islamic Boarding School is an Islamic educational institution that has a purpose - which is primordial - is; First, to print cadres of scholars who are knowledgeable and skilled in one or more areas of Islamic science, such as fiqh, aqidah, tasawwuf, Arabic, art and others. This group is those who later appear as leaders of the

people who can master the sciences of Islam that can simultaneously implement it in an Islamic civilization society order.

Second, print the Muslims who can carry out their religious teachings. With this Islamic Boarding School graduates are expected to be able to implement the teachings of Islam well even though they can not arrive at the level of scholars. So they can develop a civilization in an Islamic perspective. In this community more emphasis on practical aspect.

Third, to produce skilled and skilled personnel relevant to the formation of religious communities, which can integrate skills and skills within the Islamic framework, culture, art and framework (Faisal 1995: 182).

In line with the above objectives of Islamic education in boarding schools, according to the formulation of the Directorate of Religious Affairs Ministry of Religious Affairs Ministry of Religion of the Republic of Indonesia in 1986 on the Standardization of Religious Teaching in Islamic Boarding School, are: (1) master the science of religion and able to bear the human beings *mutafaquh fi* (2) to live and practice the teachings of Islam diligently, sincerely solely to devote to Allah SWT, (3) able to live the Sunnah of the Prophet and disseminate Islamic teachings *kâffah*, (4) noble noble, critical thinking, (5) great spirits, strong mental and physical, simple life, endurance, worship, *tawadhu'*, affection towards others, *mahabbah* and *tawakkal* to Allah SWT (Rashid, 2003: 88).

In achieving the objectives mentioned above, it is necessary to formulate a renewal of the Islamic Boarding School education system on the organizational aspects, curriculum and learning methodology. Relating aspects of boarding organizations should be organized organizational patterns are clear, structured by adhering to the principles of innovation as follows:

a. Focus on objectives

Islamic Boarding School should be able to determine the focus of the organization's goals so as to be clearly identified by all members of the organization. Through the focus of these goals each side positioned itself to achieve the goal.

b. Adiation of communication

Islamic Boarding School should be able to develop multi-level or multi-dimensional communications (top down, side, left and right). Communication must be built vertically and horizontally with comprehensive components that are not only

limited to the internal environment of the organization itself, by establishing direct communication through meetings.

c. Optimal strength considerations

Islamic Boarding School should be able to consider in it the balance of forces in all units and lines of organization, so as to contribute to the progress of the organization. Besides, to collaborate between units because they feel the dependence between them.

d. Moral dimensions

The moral dimension is closely related to the attention to individual responses affecting the Islamic Boarding School organization. Individual response in each organization is not the same. The organizational policy of Islamic Boarding School should be able to open the responses of each member and carry out those responses, and this is what is called the moral dimension of the organization.

e. Adaptation

Adaptation is needed in the realization of the relationship of Islamic Boarding School organization to the demands of environmental development. If there is a discrepancy there must be problem solving and reformulation through several new approaches involving the environment and Islamic Boarding School (Hasibuan, 2004: 74-77).

The education system in boarding schools generally still uses the traditional system. This system is still used in almost all existing boarding schools, although there has been innovation or development of some of the learning systems used.

According to Mastuhu and Nurcholish Madjid as quoted by Ahmad Salim in his journal entitled *Improving Competence of Madrasah Educative Students through Islamic Boarding School-Based Education of Character* explain in general the method of education in Islamic Boarding School using some system as follows (Salim, 2012: 178-180):

1. The Sorogan method. Is a method of individual learning where a student/students face to face with a teacher/teacher, and interaction between them.
2. Bandongan/Weton. Where the santri megikuti the lesson by sitting around the **kyai** who explain the lesson, santri listening to each book and make notes. Evaluation on this method is done by kyai member test to the

- students at face-to-face or at the moment have finishing assessment on a certain book.
3. The Discussion Method/Bahtsul Masa'il. Is a learning method that is more similar to the method of discussion or seminar. Some santri with a certain number form halaqah led directly by kyai or ustadz, or maybe also senior apprentice (**santri**), to discuss or review a problem that has been determined sebelumnya.
 4. The Market Study Method. In this method the learning activity of apprentice (santri) is done through studying certain material (books) on kyai which is done by group and its activity continuously (marathon) during certain time period.
 5. Rote Method. Learning activities of the students by memorizing a certain text under the guidance and supervision of kyai. The apprentice (santri) are given the task of memorizing certain readings. Memorized santri are then memorized to kyai periodically or incidentally depending on the cleric or ustadz in question.

In its development, Islamic Boarding School cottage does not merely grow on the old traditional pattern, has done an innovation in the development of a system. In addition to the traditional methods that include the characteristics of salafiyah huts (traditional huts), the khalafiyah movement (modern cottage) has entered the development of Islamic Boarding School booths. There are several methods of modern learning applied, among others; Classical, Courses, Training, Travel, Experiments, Sociodramas, Simulations, Work and Groups (Nurhayati, 2016: 58-62).

Some of the learning methods are intended to train the students to be able to process psychomotor, talents and interests in order to develop. It is expected that in addition to having the provision of religious knowledge, students also have the basis of the formation of independence so that it can be useful for his life.

While the subject matter taught in the boarding school includes; Lessons of Akidah, Akhlak, Fiqh, Arabic, ulumul Qur'an, al-Hadith, Ushul Fiqh, science of mantiq, Ethics of Islam, siroh Prophet Muhammad Saw, lesson tasyri' Islam, English, Physics, chemistry, mathematics, Islamic heritage, astronomy, Indonesia language, Citizenship, Skills, muthala'ah, Fiqh Five schools, Tafsir, tajwiz, Polar bahtsul and art (Basri, 2010: 235-236).

The development of boarding school education system as a center of culture and art follows the pattern of national education. Previously, Islamic Boarding School held

education without any clear administration. Students learn not to know the ladder and type, not certified, and many more that characterize traditional Islamic Boarding School. Nowadays, in modern Islamic Boarding School santri follow classical education, tiered and manifold. They have diplomas that are equalized, accredited, and all are entitled to continue education to various universities, not even a few dropouts pesantren become civil servants, officials, artists, and so forth (Basri, 2010: 242).

Various efforts to arrange the pattern of boarding school in terms of curriculum as the basis of cultural center can be described as follows, namely:

Pattern 1, the subject matter taught in this pesantren is a religious subject that comes from the classical books. The method of delivery is wetonan and sorogan, not using a classical system. The sons are judged and measured by the books they read. General subjects are not taught, do not pay attention to a diploma to find work. The most important is the deepening of the religious sciences solely through the classical books.

Pattern 2, this pattern is almost the same as the pattern I above, it's just that the process of teaching and learning is done in a classical and non-classical, as well as educated skills and organizing education. At some level a little general knowledge is given. The santri has divided the level of education from the level of ibtida'iyah, tsanawiyah, aliyah. The methods used are wetonan, sorogan, rote, and discussion.

Pattern 3, in this pattern the subject matter has been complemented by general subjects, as well as some other kinds of education, such as skill, scouting, sports, arts and organizational education, and some have carried out community development.

Pattern 4, this pattern emphasizes skill lesson besides religious lesson. Skills intended for the provision of life for a apprentice (santri) after graduating from this Islamic Boarding School. Skills taught are agriculture, carpentry, and farming.

Pattern 5, in this pattern the material presented is; a) teaching of classical books, b) madrasa, in this Islamic Boarding School education model is done, in addition to teaching the subjects of religion, also teaches general subjects. The madrasah cottage curriculum can be divided into two parts, first, the curriculum created by the hut itself and the second, the government curriculum by modifying the religious subject matter. c) skills are also taught with various skills activities, d) public schools, in this Islamic Boarding School equipped with public schools.

The subject matter in the public schools in the pesantren is entirely guided by the curriculum of the Ministry of Education and Culture. While the religious subject matter is prepared by the hut itself. Beyond the curriculum taught in schools, at scheduled times students receive religious education through reading the classic books. e) universities, in some Islamic Boarding School belonging to large pesantren have opened universities or universities (Daulay, 2001: 33-35).

In its development, not all Islamic Boarding School make changes, there are some boarding schools that choose to maintain the traditional teaching side. It looks like the patterns I and II described above. But there are also Islamic Boarding School who try to take various ways to

be able to create good achievements by utilizing the development of science and technology today. Islamic Boarding School like this looks like in the pattern III - V above.

In the concept of modern Islamic Boarding School the existence of kyai is no longer a central figure, but shifts more democratically and the division of labor becomes professional and does not give the impression authoritarian. The lesson is no longer limited to the yellow book but also the books of general knowledge.

With this change, it does not remove Islamic Boarding School from its cultural roots. Islamic Boarding School still serves as an institution that teaches religious knowledge and instill Islamic values as well as religious institutions that become social filters of society.

Table 1. Modern Islamic Boarding Shool And Tradisional Islamic Boarding Shool

No.	Komponen	Modern Islamic Boarding Shool	Tradisional Islamic Boarding Shool
1.	Basic Characteristics	Open to the changing world, accept innovation and be able to adjust to the changes that occur	Closed to change and tend to suspect innovation as something threatening
2.	The Role of kyai/ustadz	Dominan proporsional	Dominan mutlak
3.	Curriculum	Having a standardized curriculum for Islamic Boarding School and adopting government curriculum	Only the pesantren curriculum
4.	Facilities and infrastructure	There is a classroom with complete support equipment	The classroom has not been fully equipped
5.	Financial Resources	Donations /government/donor assistance	Government contributions/ assistance
6.	Orientation	Adaptive	Less adaptive

4. Discussion

Pondok Pesantren as the Center for Cultural and Art Values

Cultural values are values that are agreed upon and embedded in a society, the scope of the organization, the community environment, rooted in a habit, beliefs, symbols, with certain characteristics that can be distinguished from one another as a reference of behavior and Responses to what will happen or are happening.

a. Ethics

The term ethics comes from the ancient Greek, which is 'ethos' which means good

custom or morals. Ethics is the science of good behavior habits. Culture is the parent of the various kinds of institutions that humans have in the life of society. Ethics is part of the complexity of cultural elements. Ethical and unethical sizes are part of the cultural elements. Humans need culture, in which there are elements of ethics, to be able to maintain survival. Cultivated human beings are human beings who keep the rules of life.

Ethics can be created, but ethical and civilized societies can only be created with some basic requirements requiring support, such as political support, policy, leadership and

courage to make decisions, and consequent execution. In addition, accommodation space, both locally and nationally, where ethics is applied, supervision, observation, and the presence of those who maintain an ethical life. Ethical awareness can grow because of accommodation.

Ethics (ethics) is born because of the awareness of the existence of similar instincts to the living creatures to preserve their life, then in this ethical man into social consciousness, giving a sense of responsibility and if fulfilled will be transformed into a sense of happiness (Djelantik, 2010: 4).

In this ethical human society serves to maintain the life of groups and individuals. At first Ethics is known to a group of people who already have a higher civilization. There is a sensory process that is obtained visually and acoustically (instrumental).

Both (indrawivisual and acoustic processes) take on the additional role of performing much higher functions, not only performing vital functions, but have involved processes that occur in the mind and intellect and are more aimed at giving physical and spiritual knowledge and happiness. (Djelantik, 2010: 3).

b. Aesthetics

Aesthetics is the science that examines and discusses aspects of the beauty of something, that is, about the taste, the nature, the norm, the way of responding, and the way to compare it with the use of feelings.

The term Aesthetics was popularized by Alexander Gottlieb Baumgarten (1714 - 1762) through several descriptions that developed into the science of beauty. (Encarta Encyclopedia 2001, 1999) Baumgarten uses the term aesthetics to distinguish between intellectual knowledge and sensory knowledge. Seeing that the new aesthetic term emerged in the 18th century, the understanding of beauty itself must be distinguished from the aesthetic sense.

Cultured, besides based on ethics also contained aesthetics in it. If ethics concerns the analysis and application of concepts such as right, wrong, good, bad, and responsibility, aesthetics discusses beauty, how it can form, and how one can feel it.

The benefit of ethical and cultural aesthetic values for people's lives is to realize that maintaining and saving the culture of a region or nation should be put at the earliest. And make the value of culture as a reference to pursue the future life of society, by continuing to contextualize and actualize the various dynamics of the times. Society must be able to

filter new cultures by still prioritizing the culture of their origin do not samapai our culture lost only because of a new culture that we consider more advanced in our own culture and to become a civilized society.

c. Moral

Moral is a habit of doing good. People are said to be moral when they can manifest their nature to do good, honest and fair in their actions. As a pluralistic nation, Indonesia has two kinds of cultural systems that both must be nurtured and developed, namely the national cultural system and the local ethnic cultural system. The national cultural system is something relatively new and is in the process of its formation. This system is generally applicable to the entire nation of Indonesia, but at the same time is outside the local ethnic cultural bond.

Cultural values formed in the national cultural system are prospective, such as religious belief in God Almighty; The search for worldly truth through a scientific way; High appreciation of creativity and innovation, efficiency of action and time; Respect for others on the basis of his achievement more than on the basis of his position; High appreciation of popular sovereignty; As well as tolerance and sympathy for ethnic cultures that are not the tribe of its own nation.

These values become an image of Indonesia because it is combined with other values of the old cultural values contained in various local ethnic cultural systems. Local wisdom can basically be regarded as the foundation for national identity formation. Local wisdom is what makes a nation's culture has its roots. Local ethnic cultures often serve as a source or reference to new creations, such as in language, art, community order, and technology, which are then featured in crosscultural life.

Culture in Indonesia is very diverse because it has many differences between people residing in the land of Indonesia, but Indonesia has motto *bhineka single ika* which is interpreted although different but still one. In each region has different customs, that is what distinguishes the rules in each region. Such as tribe *asmat* in *papua* with clothes typical for men who use *koteka* and even the inhabitants there who do not wear clothing, but it is not broken because it has become a tradition there. If such a thing exists in the Jakarta area it can be ascertained has violated the applicable law rules. That's why the regulation in every region in Indonesia is quite diverse. Culture in Indonesia is very strong because of the culture that passed from generation to ancestor until

now. And there are still many traditional events in various regions to preserve their respective cultures.

Behavior of a civilized person is a behavior that is carried out in accordance with the moral, norms prevailing in the community, in accordance with the command in every religion that is believed, and in accordance with applicable state law. In behaving, cultured human beings do not carry out attitudes or actions that distinguish from the rules either in the form of existing norms in society and law that apply.

Therefore, the human nature that is cultured that must be owned by every human being, especially the Indonesian nation that is recognized as a large country with many cultures owned. Be human being who has a high culture that makes man as a human being cultured and certainly a cultured human being must also human beings who are educated, but otherwise educated human being is not necessarily a human being who is cultured. Many examples in this country are intelligent or educated people who commit many crimes or deviate for example like corruption. It all happens because they do not become a cultured human And consequently they have no moral, honesty, and sense of responsibility.

Therefore be a cultured human being. By becoming a cultured human society will have the attitude of intelligent, moral, polite and courteous in living the life of self or nation and state. Attitude And the human nature of the cultured it also will make the nation of Indonesia a great nation that has the identity of itself as a civilized nation and dignified.

Globalization is a special phenomenon in the civilization and development of human culture that continues in the global society and is part of the global human process. The presence of information technology and communication technology accelerates the acceleration of this globalization process. Globalization touches all important aspects of life. Globalization creates new challenges and problems that must be answered, solved in an effort to exploit globalization for the benefit of life. The discourse of globalization as a process is marked by the rapid development of science and technology so that it is able to fundamentally change the world and boarding school as a center of culture and art in the past to date.

The development of globalization as a phenomenon of the present century has far-reaching implications for all nations and the international community. With the support of advanced communication and transportation

technology, the impact of globalization will be very wide and complex. As a result, akan change the culture, adab, mindset, attitude, art and human behavior. It may be possible to alter other aspects of life, such as kinship, community, nationality, or generally affecting the nation's cultural system.

The flow of globalization gives influence in various life, such as politics, economy, social, culture, art and defense. The influence of globalization on ideology and politics is the strengthening of the influence of liberal ideology in the politics of developing countries marked by the strengthening of ideas of kebebasan and democracy. The influence of globalization in the field of politics, among others, brought internationalization and the spread of ideas and democratic values including human rights.

The effects of globalization on the economy include the strengthening of capitalism and free markets. This is indicated by the growing growth of transnational corporations that operate without knowing national boundaries. Capitalism also demands a freer market economy to enhance the principle of benefit, entrepreneurship, capital accumulation, profit making, and rational management.

The influence of globalization on socio-cultural and art will be the entry of values from other civilizations. This resulted in the erosion of socio-cultural values and the art of a nation that became its identity. This influence is more smoothly with the rapid media of information and communication, such as television, computer, satellite, internet, and so forth. So that the boarding school as a center of civilization in the past should be able to synergize with the development of globalization and advancement of technological and information progress.

Problematic in Culture and Art (Islamic Boarding School)

Cultural problems in Indonesia arising from globalization can be seen in the fields of language, art, and most importantly - social life. Due to rapid technological developments, transculture occurs in the traditional arts of Indonesia. Such transcultural events will inevitably affect the existence of our art.

Where as Islamic Boarding School as a base of our traditional arts is part of the national cultural treasures that need to be preserved. With increasingly sophisticated information technology like today, we are treated to many alternatives offering entertainment and more diverse information, which may be more interesting when compared with our traditional arts. With television, the public can watch a

variety of entertainment that is global that comes from different parts of the world.

Social life is also one of the constituents of civilization that is much influenced by globalization. The dimensions of values in previous lives based on the concept of collectivism are now transformed into individualism. Humans no longer feel the same fate, with other human beings (as in the days of struggle) because the development of technology and information demands them to compete with each other in meeting the increasingly urgent needs of life. It also affects the decrease of social contact between fellow human beings in the context of community relations.

Since the first boarding school as a center of culture and art lifted in the intellectual discourse of the Muslims in Indonesia, along with the issue of mobilizing community participation in development and modernization issues. Through the touch of some activists who mostly post graduate, traditional institutions that have been engraved in Indonesia experience the actualization process, both in the form of *resistensi* and integration.

In the form of resistance, Islamic Boarding School n still retains its characteristic as a traditional institution with a unique system of cultural and artistic values, while striving to direct its ability to serve the lower classes. Meanwhile, in the form of integration, Islamic Boarding School n is integrated and integrated with modern institutions, starting from the aspect of leadership, curriculum, building, until in its orientation.

Efforts to develop Islamic Boarding School cottage in the context of regional autonomy, there are at least two things that require special attention, both external and internal. Developments that are external, among others, namely: keep the image of boarding school in the eyes of the community according to the expectations of the community, the hope of parents who enter their children to the hut, for that quality graduates should have added value from other graduates of education are equal, santri- Santri should be prepared to be able to compete in a pluralistic society, Islamic Boarding School should be open to every development and change that happened, to scientific findings, including new findings in the world of education, meaning that boarding school does not drown in its own.

While that is internal in developments Islamic Boarding School, should be done things such as: curriculum boarding schools should be designed in such a way to meet the needs of students, either interest, talent, or ability. Islamic

Boarding School lecturers, without reducing the role of *kyai*, for the development of adaptive Islamic Boarding School would need special criteria in recruitment of educators (*ustadz/ustadzah*).

In order to maintain the existing boarding school in Indonesia, both as a center of culture and art to survive to this day. It needs a container that can accommodate all the religious activities of the *santri*. So that boarding school institutions can follow the development of the era (adapt to the influence of modernization) while maintaining the culture, in this case is needed innovation Islamic Boarding School As Culture and Arts Center in modern society today.

Where the boarding school as a container activities, while the culture and art as a *santri* activity activities contained in it. With the expression of the *pesantren* community "*almuhaafadha'alal qodiemi ash-shooli ma'al akhdzi bi al soediel ashlah*", maintaining a good old tradition by taking on new traditions better (Faiqoh 2003: 247).

The era of globalization encourages Islamic Boarding School cottage in the process of cultural change and acculturation. Acculturation processes that arise in a group of people with a particular culture confronted with elements of a foreign culture. The foreign culture is gradually accepted and processed into its own culture without causing the disappearance of the cultural element of the group itself due to the existence of a deconstructive method at the stages in the process of local cultural development. Changes and developments that occur in the current era encourages the mixing of cultural and artistic values between local elements (archipelago) and elements of immigrants (Islam).

From the entire analysis, Islamic insights, concepts and designs in Islamic Boarding School as the center of Culture and art, Islamic Boarding School is a building characterized by culture and art as a place for all the activities of the *santri*, and gradually this building not only as a Culture and Art Center, But will make an icon itself and bring change for the Islamic Boarding School itself.

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DEVELOPMENT OF RPKPS AND SAP LEARNING BASED INQUIRY IN THE SUBJECT PLANNING TEACHING IN INDONESIA LANGUAGE

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Abstract

Purpose of this study is to produce the RPKPS and SAP based on the valid inquiry in the subject planning teaching indonesia language course. Type of this research is development research with using addie model, such as: analysis, design, development, implementation, and evaluation. However, in this study only until the development stage. Instrument in this research is validation questionnaire of RPKPS and SAP learning. The data of this research are validity questionnaire of RPKPS and SAP that were obtained from 2 experts and 1 practitioners. Scoring is done by using a Likert scale and analyzed by using description statistics. Based on the results of the analysis that has been done, it can be concluded these things. First, the development of RPKPS learning which based on inquiry in the subject planning teaching indonesia language is stated very valid with the general value of 83.52. The value is derived from 4 aspects of assessment, namely the content feasibility aspect with the value of 84.67 with the category is very valid. Aspects of language worthiness with a value of 87.61 with the category is very valid. Aspect of feasibility of presentation with value 84 with category very valid. Aspect of feasibility of graduation with value 77,78 with valid category. Second, the development of SAP learning which based on inquiry in planning teaching indonesia language is stated very valid with the general value of 86.80. The value is derived from 4 aspects of assessment, namely the content feasibility aspect with a value of 86.67 with the category is very valid. Aspects of language worthiness with a value of 85.56 with the category is very valid. Aspect of presentation feasibility with value 88,83 with category very valid. Aspect of feasibility of graduation with value 86,67 with valid category. So, it can be concluded that the RPKPS and SAP which based on inquiry are considered very valid and can be used in the course of planning teaching Indonesian language.

Keywords: development of RPKPS and SAP, inquiry, planning of teaching, Indonesian language.

1. Introduction

Indonesian Language and Literature Education Studies Program STKIP PGRI West Sumatra is one of the study programs that produce graduates of bachelor field of education. To obtain the degree, students are equipped with various fields related to the field of teaching, language, and literature. One of the subjects that must be studied by students is the Indonesian Teaching Planning. This lecture is filled with the discussion of the components that exist in the RPP.

In this subject, there are some basic materials, such as the nature of SK, KD, indicators, learning objectives, teaching materials, media, learning methods, and the steps of making RPP. This subject demands the students to be able for writing RPP that will be used later when they become a teacher. Thus, the course of Indonesian Teaching Planning is an

important subject that ought to be mastered by the students.

However, the current facts that has found in the class indicate that the students' ability is still weak in the Indonesian language teaching planning courses, especially in the design of learning or other words of the Lesson Plans (RPP). Husen and Ramlan (1997: 3) said that learning planning is a process of arranging a series of activities to make the people learn. Planning is the first step before learning and evaluation. In making RPP students should consider the components that exist in the RPP. According Ika (2013: 12) components in the RPP, such as the identity of subjects; competency standards; basic competencies; learning objectives; Indicators of Competence Achievement; Time Allocation; Learning Resources; Teaching material; learning methods; Learning activities consisting of preliminary activities, core activities, and closing activities; Assessment of learning outcomes.

Beside that, the bad scores that have been obtained by students in the subject planning teaching of Indonesia language caused by lack from learning textbooks of Indonesian Teaching Planning. Students rely on only one textbook. Textbooks used by students have not been able to motivate students. It is also stated by Wena (2011: 229) that the availability of quality textbooks is still very lacking. This thing can be looked the textbooks that used in schools / colleges are designed with only emphasis on the mission of the delivery of knowledge / facts alone. The authors of textbooks are less concerned with the ease of understanding the book. And the impacts of those things students are difficult to understand the book they read so they may feel bored. In addition, there are also other factors, namely many lecture tools used by current lecturers who have not precisely the preparation. The lecturer should be able for making lecture materials. Teaching materials that are used as learning support tools (Mulyani, et al 2013, p. 53).

Meanwhile, students are required to be active in lecture process and lecturers act only as facilitators. This is in accordance with the approach of SCL (Student Centered Learning). As a facilitator, lecturers play a role to provide services to facilitate students in lectures. Lecturers should be able to facilitate students in lecturing process. One way that lecturers can do to facilitate students is by providing lectures as one learning resource that will help students in achieving the learning objectives that have been set. Devi, et al (2009: 1-5) states that learning tools are a tool used in teaching and learning. Therefore, every educator is obliged to develop learning tools that take place interactively, inspiration, fun, motivate students to actively participate. Learning tools are needed in managing the teaching and learning process, especially in the college like form of RPKPS, SAP, and teaching materials. But in this study only up to RPKPS and SAP.

According to Nunan (1988: 65) RPKPS is one of the learning tools that describes the specific and complete learning steps with its assessment. RPKPS contains components such as; Standards of competence, basic competencies, competency indicators, lecture materials and descriptions, learning experiences (learning strategies), media / learning tools, assessment systems, and references. Furthermore he said that RPKPS is a projection activities or activities that will be conducted by lecturers in the lecture.

In addition, according to Suparman (2011: 52) Teaching Events Unit (SAP) is the subject of

instruction which includes one or several subjects to be taught during one or several meetings. SAP provides detailed guidance, meetings by meeting, about the objectives, scope of materials that educators must teach, teaching and learning activities, media and evaluation that must be used

A good learning tool is when it has been declared valid, practical, and effective. In this study only in validation step. Arikunto (1988: 278) states that validation is a series of activities which aimed to pursuing something to be valid, or right, trustworthy. Emzil (2010: 273) says validation is a process of assessing product design that is done by providing an assessment based on rational thinking. Zainuddin, et al (2012: 67) said that the module validation is done on the aspect of the content, language, and presentation by expert. Validation indicators cover four aspects, such as: content aspect, language aspect, presentation aspect, and aspects of graph (Department of national education and government regulation number 19 year 2005 on National Education Standards Agency (BSNP), article 43 paragraph 5). The category of validity from RPKPS and SAP is modified based on the theory proposed by Riduwan (2012: 15), namely the level of achievement 0-20 is in invalid category, 21-40 are in the less valid category, 41-60 are in the category quite valid, 61- 80 is on a valid categorization, and 81-100 are in very valid category.

One of the manner to develop that lectures tools is by using the inquiry strategy. According Sanjaya (2006: 194), inquiry strategy is a series of learning activities that emphasize the critical and analytical thinking process to find and find answers themselves from a questionable problem. The inquiry strategy has several steps. Sanjaya (2006: 204) explains that in general the learning process using inquiry strategy consists of seven steps, as follows. (1) orientation is a step to foster a responsive atmosphere or learning climate, (2) formulating a problem is a step in bringing students to a puzzle-filled problem, (3) formulating a tentative answer hypothesis of a problem that is studied, (4) to collect data for gathering information that needed to test the proposed hypothesis, (5) to test the hypothesis is the process of determining the accepted answer according to the data or information that obtained by data collection, and (6) to formulate the conclusion is the process of describing the findings Which is obtained based on the results of hypothesis testing.

Based on the background of the problem above, the purpose of this research is to produce the valid RPKPS and SAP based on the

ingredients of the Indonesian language teaching planning course.

2. Method

This research is a development research. According to Borg and Gall (in Arlitasari, 2013: 85), research and development (R & D) is a research method used to develop or validate products used in education and learning. This development research uses the ADDIE model, such as : analysis, design, development, implementation, and evaluation. However, in this study only carried out until the development stage. Research instrument in this research is validation questionnaire of RPKPS and SAP learning. The data of this research are validity questionnaire of RPKPS and SAP obtained from 2 experts and 1 practitioners. Before the data were analyzed, it was done by using Likert scale. Technique of data analysis that has been used in this study is descriptive. Technique of descriptive analysis is done by using descriptive statistics.

3. Result

Based on the result of the research, it can be concluded that RPKPS and SAP which based on inquiry in Indonesian language teaching planning course are very valid. Data analysis was done by three stages, such as: analysis, design, and development. The analysis phase has a purpose to define and define the learning requirements. The things that are done in the analysis phase starts from curriculum analysis, concept analysis, until student analysis.

Based on the results of curriculum analysis can be concluded that the course of planning teaching Indonesian language must be taken by students majoring in Indonesian Language STKIP PGRI West Sumatra. This course consists of 3 credits and taught to students of the fourth semester.

The concept analysis has a purpose to identify, detail and formulate main concepts that will be presented in RPKPS and SAP learning. Based on the analysis of curriculum that has been done, can be determined the main concepts of materials in planning teaching Indonesian language. The main concept of Indonesian language teaching planning materials is the essence of Indonesian language learning planning; Formulation of learning objectives; Planning of learning materials; Selection and determination of learning strategies; Selection and use of instructional media; Preparation of evaluation tools; Preparation of syllabus and

Learning Implementation Plan (RPP). All of these concepts are contained in the RPKPS and SAP lectures.

The student's analysis has a purpose to find out the problems of learning, characteristic, and RPKPS that students are interested in. Based on the results of the analysis that has been done can be concluded that in learning RPKPS used by students not yet interesting and the materials contained in the RPKPS not clearly listed. In addition, the tasks and exercises that have been given are not clearly visible in the RPKPS. In addition, The learning method used in the lecture process is not yet illustrated. Therefore, in this research will be produced RPKPS that will facilitate students in learning and equipped with sub-material in each meeting and the clear assignment.

After did the definition stage it will be continued with the design stage or design. Steps that must be done at the design stage are designing RPKPS and SAP based inquiry on the Indonesian language teaching planning course. Inquiry-based RPKPS that is designed consists of course identity; Course description; Number of hours; Lecture schedule; Course material; Assessment; reference; Monitoring and feedback. The mercury strategy is visible in the lecture schedule.

SAP-based inquiry that are designed consist of the identity of the course; Learning achievement; Course material; learning methods; teaching and learning activities; evaluation; reference. The SAP is created at each meeting. Strategies of inquiry are illustrated in the methods and learning activities. After did the design stage than it will be followed by the development stage. Development stage includes validation of RPKPS and SAP. RPKPS and SAP based inquiry in the course of Indonesian language teaching planning is evidenced by 2 experts and one practitioner.

Based on the results of the analysis that has been done can be obtained the validation results RPKPS and SAP based inquiry in the course of teaching planning Indonesian language as follows.

Table 1. result of validation generally

No	Aspect that want to be observed	Average score	category
1	Content feasibility	84,67	very valid
2	Aspect Language worthiness aspect	87,61	very valid
3	Feasibility aspect of presentation	84	very valid
4	Aspect graph feasibility	77,78	Valid
Average generally		83,52	very valid

After did the validation analysis of RPKPS based on inquiry in the course of planning teaching Indonesian language. Next step, validation analysis SAP-based on inquiry in the course of planning teaching Indonesian language. The results of SAP validation analysis can be seen in the table below.

Tabel 2. Result of validation SAP generally

No	Aspect that want to be observed	Average score	category
1	Content feasibility aspect	86,67	very valid
2	Language worthiness aspect	85,56	very valid
3	Feasibility aspect of presentation	88,83	very valid
4	Aspect graph feasibility	86,67	very valid
Average generally		86,80	very valid

4. Discussion

After analyzing the data has been done, the next step is to discuss RPKPS and SAP based on inquiry in the course of planning teaching Indonesian language which is produced based on data analysis result. Before being tested to students, the product must be validated. This is in the same line with Emzil's opinion (2010: 273) that before tested the product must be validated. Validation is a process of assessing product design done by providing a rationale based judgment, without field trials. In this study, RPKPS and SAP were validated by 2 expert validators and 1 validator practitioners. Valid aspects include 4 aspects, namely the content feasibility aspects, language feasibility aspects, feasibility aspects of presentation, and aspects of graph. This is in the same line with Government

Regulation No. 19/2005 on the National Education Standards Board (BSNP), article 43, paragraph 5, that module validation concerns four aspects, namely content feasibility, feasibility of presentation, language feasibility, and feasibility of graph.

Based on the results of data analysis that has been done, it can be concluded RPKPS and SAP which based on inquiry in the course of planning teaching of Indonesian language developed pertained very valid. So, RPKPS and SAP can be used by lecturers and students. The validity of that RPKPS can be illustrated from four aspects, namely as follows.

The content feasibility aspect illustrated RPKPS that has been designed has illustrated the description, indicators, and lecture objectives. In addition, the material and its assessment have also been clearly described. It's just that there are some methods that have not been concrete. When it is viewed from its reference, the RPKPS that has been designed has listed the main references and supporting references that can be used in lectures. If it is viewed from the aspect of language language feasibility is used in accordance with Indonesian Spelling (EBI) only there are some terms that are difficult to understand by students.

If it is viewed from feasibility aspect of presentation of RPKPS based on inquiry, The presentation of title and subhead is short and easy to be understood by lecturer and student. In addition, learning achievements, lecture descriptions, lecture schedules, and assessments are presented in a simple and in accordance with inquiry strategies. When it is viewed from the aspect of the graph feasibility of RPKPS which based on inquiry that produced has the form and the size of the letters that can be read by students. In addition, the look of the contents and design of RPKPS is also interesting.

The validity of SAP is also illustrated from four aspects, namely as follows. The content feasibility aspect illustrates that the designed SAP has correctly illustrated the description, indicators, and lecture objectives of each meeting. In addition, the materials, learning activities, assessment have also been described in detail. It's just that in the learning activities there are several meetings that have not described the inquiry strategy clearly. When it is viewed from its reference, the designed RPKPS has listed the main references and supporting references that can be used in lectures. If it is viewed from the aspect of language feasibility, the language used in writing SAP is in accordance with the Indonesian Spelling (EBI) and language that has

been used is communicative so that it is easy to understand by lecturers and students.

When it is viewed from the feasibility aspect of the presentation of SAP-based inquiry, has presented the title, achievements, descriptions, and assessment clearly. When it is viewed from the aspect of the graph feasibility of RPKPS which based on inquiry that has been produce has form and the letter size that can be read by students. In addition, the display of content and SAP design can inspire students to learn.

Based on the discussion above, it can be concluded that RPKPS and SAP which based on inquiry that has been developed can be declared very valid. The validity of RPKPS and SAP are reflected from 4 aspects of the assessment, namely: content feasibility aspect, language feasibility aspects, feasibility aspects of presentation, and language feasibility aspects. Therefore, it can be concluded that RPKPS and SAP have been tested or implemented to Indonesian language education students who take courses in Indonesian language teaching planning.

5. Conclusion

Based on the results of research and discussion that has been done can be concluded the following. First, the RPKPS based on inquiry in the Indonesian language teaching subjects developed are quite valid with an average grade of 83.52. The value is derived from 4 aspects of assessment, namely the content feasibility aspect with the value of 84.67 with the category is very valid. Aspects of language worthiness with a value of 87.61 with the category is very valid. Aspect of feasibility of presentation with value 84 with category very valid. Aspect of graph feasibility with value 77,78 with valid category. Second, the development of learning SAP which based on inquiry in the course of planning teaching indonesia language is stated very valid with the general value of 86.80. The value is derived from 4 aspects of assessment, namely the content feasibility aspect with a value of 86.67 with the category is very valid. Aspects of language worthiness with a value of 85.56 with the category is very valid. Aspect of presentation feasibility with value 88,83 with category very valid. Aspect of feasibility of graduation with value 86,67 with valid category. So, it can be concluded that the RPKPS and SAP based inquiry are considered very valid and can be used in the course of planning teaching Indonesian language.

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CURRICULUM IMPLEMENTATION OF HIGHER EDUCATION ACCORDING TO NATIONAL STANDARD (SNDIKTI) AND INDONESIAN NATIONAL QUALIFICATIONS FRAMEWORK (KKNI) ON COURSE PHYSIOLOGY OF PLANTS

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Abstract

Higher education institutions was given the authority to establish and develop a curriculum that is based on SNDIKTI number 44 year 2015 and Presidential Decree number KKNI 8 year 2012. Higher education institutions need the readiness of human resources professionals in the implementation of curriculum development. The purpose of this study was to describe the validation results of learning device, the effectiveness of the curriculum learning outcomes in accordance SNDIKTI and KKNI in Plant Physiology courses for students as a biology teacher candidates in terms of mastery of concepts and science process skills of students. The object of research is the curriculum in accordance with SNDIKTI and KKNI. This research is quantitative descriptive. Data were analyzed by using quantitative analysis. The population of this research is the students of Biology Education Mulawarman with the study sample were students who programmed course Plant Physiology. The results showed that implementation of the curriculum in accordance SNDIKTI and KKNI in the subject plant physiology can encourage students to participate actively in the investigation, experiment, develop a sense of responsibility for their own learning, actively asking questions and solving problems. Curriculum development plant physiology courses that accordance to KKNI and SNDIKTI have met the eligibility criteria of a model, that is valid, practical and effective. The validity of the learning device which consists of Semester Lesson Plan and Worksheet declared 100% complete and proper for use in learning. Learning devices are arranged in a practical and its implementation can be conducted properly, and it also can improve student mastery of concepts with an average post test amounted to 85.71% and the average value of the gain medium and 48.86 with the classical criteria of science process skills obtained an average value of 3.4 with good criterion. Curriculum to SNDIKTI and KKNI on plant physiology courses can effectively improve student's learning outcomes in terms of mastery of concepts and science process skills.

Key Words: Curriculum, SNDIKTI, KKNI, Physiology of Plants

1. Introduction

Education Workforce Education Institutions (LPTK) was commissioned to prepare prospective teachers in Indonesia. Teachers need to educate and teach well, to set up a Human Resources (HR) Indonesia qualified in accordance with the demands of

ever-changing society. People want a quality education and produce graduates who are ready to work and ready to conduct further study. LPTK should follow the needs of the field, which not only provided supplies to prospective teachers about the implementation of the curriculum but should be more comprehensive, which give provisions on curriculum

development, including planning, preparation, execution, and evaluation of the curriculum. Some of the policies advanced in the field of education that must be anticipated by LPTK as contained in the following documents: according to Education Law Article 3 No. 20 of 2003 national education goals to be achieved are: 1) Faith and fear of God Almighty (spiritual attitudes), 2) noble, healthy, independent, and democratic and responsible (social attitudes), 3) knowledge (knowledge), 4) capable and creative (skills) (Education in the Ministry of National Education, 2013: 19).

Regulation of the Minister of Research and Higher Education of the Republic of Indonesia Number 44 of 2015 on National Education

Standards include: 1) Standard Competency, 2) Content Standards of Learning, 3) Standards of Learning Process, 4) Assessment Standards of Learning, 5) Standard Lecturers and Personnel, 6) Infrastructure Standards of Learning, 7) Management Standards of Learning and 8) Financing Standards of Learning. National Education Standards referred to such a reference in preparing, conducting and evaluating curricula (Research and Higher Education, 2015: 6).

Indonesian Presidential Regulation No. 8 of 2012 on the National Qualifications Framework Indonesia (KKNI) Chapter I of Article 1.1 and Article 1.2 states that KKNI is the framework penjenjangan competence and qualifications to reconcile, equalize, and integrate the field of education and field work training and work experience in order granting recognition of the competence of work in accordance with the structure of employment in various sectors. Learning gains is the ability gained through the internalization of knowledge, attitudes, skills, competencies, and the accumulation of work experience (Deputy Public Affairs, 2012: 2).

Competency framework of the 21st century to improve the learning process to achieve proficiency: (1) Skills lives and careers (life and carrier skills) consisting of: 1) be flexible and adaptive, 2) took the initiative and independently, 3) skilled social and cultural rights, 4) productive and accountable, 5) leadership skills and responsibility; (2) learning and innovation skills (learning and innovation skills) consisting of: 1) creative and innovative 2) critical thinking in solving problems, 3) communication and collaboration skills; (3) the capacity to obtain information, media, and technology (information media and technology skills) consisting of: 1) literat information, 2) literat Media, 3) literat ICT (Tucson, 2009: 1).

Universities have the authority to develop or construct an effective curriculum appropriate to the circumstances and needs of the region, building on the National Standards for Higher Education (SNDIKTI) in accordance with the Minister of Research and Higher Education regulations number 44 in 2015 and peraturan Presiden Republic of Indonesia Number 8 of 2012 concerning KKNI. It holds the promise of a more tangible to improve the quality of education for the creation of quality human resources who have high competitiveness amid increasingly sharp global competition. Higher Education authority in preparing the curriculum requires the readiness of human resources professionals in their implementation.

Plant Physiology courses aimed at understanding the basic concepts and processes

that occur in the plant life. Biology student teachers in Mathematics and Science Education Programs FKIP environmental education courses to get college biology Plant Physiology. Plant Physiology courses weighs 3 credits with course code 05015333. Competence plant physiology courses implemented to date has not led to Permenristek No. 44 2015 on the National Standards for Higher Education (SNDIKTI) and Presidential Regulation no. 8 of 2012 on the Indonesian National Qualifications Framework (KKNI), in this case need to be arranged Plant Physiology curriculum subjects that refer to SNDIKTI and KKNI.

To prepare students managed to live in the future necessary to change the form of improved curriculum Semester Lesson Plan (RPS) and the Student Activity Sheet (MFIs) in Plant Physiology courses that refer to SNDIKTI and KKNI. If implemented this curriculum are able to prepare students managed to live in the future, namely the students: 1) be able to apply the concepts and principles of didactic-pedagogic biology and the science of biology for the planning, management, implementation, evaluation by utilizing science and technology-oriented skills / life skills (life and career skills), 2) have the skills / learning and innovation skills (learning and innovation skills). Students as prospective teachers have the ability to work not only prepared as a teacher, but had a job skills.

Concept is a unit of meaning which represents a number of objects that have the same characteristics (Winkel, 1991). While Dahar (1989) defines concept as the foundation of thinking, which is obtained through the facts and can be used to solve the problem.

Mastery of concepts by Dahar (2003), as the student's ability to understand the scientific meaning both theory and its application in everyday life. While the definition of the concept according to Bloom's is the ability to capture notions like being able to disclose a material that is presented in more understandable form, able to provide interpretation and able to apply. Based on those opinions can be concluded that students' mastery of concepts is the ability to understand the significance of learning and applying it to solving problems in everyday life.

In this research, through a series of learning implementation using SNDIKTI and KKNI accordance curriculum on plant physiology courses, students can master the concept of material provided so that students can resolve the problems associated with such materials. If a student can master the concept, it can be used as a basis for science process skills.

According to the Beaumont-Walters & Soyibo; Germann & Aram, 1996a; Eilam, 2002 (Karamustafaoglu, 2011: 26) science process skills are grouped into two categories, namely: 1) The basic process skills are: skills: observing, classifying, measuring and predicting. These skills provide the intellectual foundation in scientific inquiry, such as the ability to describe the events that occur in nature. 2) Integrated Process Skills comprising: identifying and defining variables, collecting and processing data, building data tables and graphs, depicting the relationship between variables, interpret the data, manipulate the data, formulate hypotheses, designing an investigation, make conclusions and generalizations.

Based learning skills improvement process is the strategy of "guided discovery" that help students learn how to learn, helps students acquire knowledge in a way to find it yourself. In this model also included the discovery of meaning, the organization and structure of the idea or ideas, so that gradually the students learn how to organize and conduct research. Science process skills emphasis on students' ability to find their own ("discover") knowledge based on experiential learning, laws, principles and generalizations, so it provides an opportunity for the development of thinking skills high level (Houston in Haryono (2006: 4). Thus students are more empowered as a subject of study that should play an active role in the hunt for information from various sources of learning, and teachers act more as an organizer and facilitator of learning.

According to the Beaumont-Walters & Soyibo; Germann & Aram, 1996a; Eilam, 2002 (Karamustafaoglu, 2011: 26) science process skills are grouped into two categories, namely: 1) The basic process skills are: skills: observing, classifying, measuring and predicting. These skills provide the intellectual foundation in scientific inquiry, such as the ability to describe the events that occur in nature. 2) Integrated Process Skills comprising: identifying and defining variables, collecting and processing data, building data tables and graphs, depicting the relationship between variables, interpret the data, manipulate the data, formulate hypotheses, designing an investigation, make conclusions and generalizations.

2. Method

This research is quantitative descriptive. Data were analyzed by using quantitative analysis. The population of this research is the students of Biology Education Mulawarman with

the study sample were students who programmed course Plant Physiology. The variables into the study of this study are:

1. Practicality seen from keterlaksanaan learning curriculum and obstacles encountered after the implementation of the learning curriculum and KKNi accordance SNI DIKTI in Plant Physiology Course

2. The effectiveness of a curriculum model seen mastery of concepts and science process skills after learning implementation using SNI DIKTI accordance curriculum and KKNi in Plant Physiology Course.

The instruments used to collect data in this study are as follows: 1) The instrument Practicality Curriculum National Standard of Higher Education (SNI DIKTI) and the National Qualifications Framework Indonesia (KKNi) Subjects Plant Physiology and 2) Instrument effectiveness of learning outcomes Curriculum National Standard Higher Education (SNI DIKTI) and the Indonesian National Qualifications Framework (KKNi) Plant Physiology courses in terms of mastery of concepts and science process skills

The data collection is done by setting up: 1) The instruments used to obtain data on student mastery of concepts before and after the implementation of appropriate learning tools and KKNi SNI DIKTI. The shape of the test given in the form of essay test with a number of 10 questions that have been adapted to the learning objectives. Pre-test given before the learning begins while the post-test was given after learning. 2) instrument science process skills that are used for troubleshooting or performing science experiments. Results of the assessment of science process skills that students have meaningful learning experiences. Tests used in the science process skills, students carry out the activities contained in the MFI and define problems, formulate hypotheses, designing experiments, carry out experiments, collect data, analyze the data, draw conclusions, and communicate. With the provision of the section were scored: 1 if it is not done, 2 if it is done but not quite, 3 if done correctly, but less precise, and 4 if done correctly and appropriately.

Data Analysis Techniques, consisting of:

1) Analysis of Concept Mastery. Data analysis techniques to determine the completeness of the indicators is to use descriptive with the following formula:

$$P = (\Sigma A) / (\Sigma N) \times 100\% \dots\dots\dots (\text{Ratumanann and Laurens, 2012})$$

Information:

P = Percentage of completeness indicator

ΣA = Number of students who answered questions correctly on each of the indicators

ΣN = Total maximum score on each indicator

To determine the learning outcome in this study using techniques normalized gain. The use of this technique as to determine the effectiveness of learning outcome of each student as indicated by the value of G (normalized gain) and with the following formula:

$$(g) = \frac{S_{post} - S_{pre}}{S_{max} - S_{pre}} \dots \dots \dots (\text{Hake, 2008: 1})$$

Information:

(G) = Value gain

Spre = Value pre-test

Spost = The post-test

S max = maximum value

Furthermore, from the calculation of the N-gain is then converted to the following criteria:

Table 1. Criteria Normalized Gain

Skor N-Gain	Criteria Normalized Gain
N-Gain > 0,70	High
$0,30 \leq \text{N-Gain} \leq 0,70$	Medium
N-Gain < 0,30	Low

(Hake, 2008: 1)

Sensitivity index of an item is basically a measure of how well items that differentiate between students who are receiving students who have not received learning. An item is said to be sensitive to learning when $S \geq 0.30$. To calculate the sensitivity of the item, then use the following formula:

$$S = \frac{Ra - Rb}{T} \dots \dots \dots (\text{Gronlund dalam Ibrahim, 2005: 50})$$

Information:

S = Sensitivity

Ra = Number of students who answered correctly on the test end

Rb = Number of students who answered correctly on the test early

T = Number of students who take the test

2) Science Process Skills Analysis

Data were analyzed using descriptive analysis is to look at the average value of the results of each meeting on the course. After the data are the focus of the research and collected, then the next data obtained in the form of qualification assessment reporting student

success in science process skills are expressed in a range of customized SNDIKTI (2014): number 4 (four) category is very good; number 3 (three) good category; number 2 (two) categorized enough; number 1 (one) category lacking.

3. Results

1) Description Results of Learning Device Test On Standards Compliance Implementation of the National Curriculum of Higher Education (SNPT) and the Indonesian National Qualifications Framework (KKNI) In Plant Physiology Course

Enforceability learning device was observed by 2 observers. Observations were made during three meetings (activities carried out in the classroom), which is an implementation of the RPS. On average enforceability of learning at the 1st meeting obtained a score of 3.85 and reliability of 95.6%. On average enforceability learning at the 2nd meeting obtained a score of 3.96 and reliability of 98.9%. On average enforceability learning at the 3rd meeting obtained a score of 3.92 and reliability of 97.8% (Ratumanan and Laurens, 2011).

2) Learning Outcomes Implementation of National Curriculum Standards Compliance Higher Education (SNDIKTI) and the Indonesian National Qualifications Framework (KKNI) In Plant Physiology Course:

a. Students Concept Mastery

Learning outcomes assessment to determine the extent of students' mastery learning concept that has been done. Penggunaan concept of students in the subject of Plant Physiology obtained from achievement test conducted prior learning (pre-test), and after learning (post-test). Giving tests before learning is done to look at the initial capabilities of students and giving the final test of learning aims to look at the ability of students after learning to do. Both the data is processed to calculate the achievement completeness mastery of concepts, with reference to the criteria in accordance with SNDIKTI with learning assessment criteria with numbers ≥ 3 lettered B categorized either equivalent to number ≥ 75 . The pre-test results show there is one goal of the items mastery of concepts plant physiology who finished with a percentage of completeness average of 10%. However, at the post test eight (8) the purpose of item number completed with an average percentage of 80%. Sensitivity whole good item. This is because an item is said to be sensitive to learning when $S \geq 0.30$ (Gronlund and Linn, 1995). Furthermore score results of pre-test and

post-test is used to determine the N-Gain of each student.

Table 2. Scores Results Concept Mastery Test Plant Physiology, Percent Complete Students, and N-Gain.

1	2	3	4	5	6	7
1.	67,5	TT	85	T	0,54	M
2.	65	TT	80	T	0,43	M
3.	70	TT	90	T	0,67	M
4.	65	TT	82,5	T	0,50	M
5.	67,5	TT	82,5	T	0,46	M
6.	62,5	TT	77,5	T	0,40	M
7.	70	TT	90	T	0,67	M
8.	65	TT	85	T	0,57	M
9.	75	TT	90	T	0,60	M
10.	50	TT	67,5	TT	0,35	M
11.	50	TT	60	TT	0,20	M
12.	67,5	TT	85	T	0,54	M
13.	62,5	TT	77,5	T	0,40	M
14.	67,5	TT	82,5	T	0,46	M
15.	67,5	TT	82,5	T	0,46	M
16.	72,5	TT	90	T	0,64	M
17.	67,5	TT	85	T	0,54	M
18.	72,5	TT	85	T	0,45	M
19.	57,5	TT	75	T	0,41	M
20.	65	TT	87,5	T	0,64	M
21.	55	TT	70	TT	0,33	M
% Kts	0	TT	85,71	T		

Information:

1 = Students's number

2 = *PreTest* Score

3 = Information

4 = *Post Test Score*

5 = Information

6 = N-Gain

7 = Information

Qty = Complete

T = Completed

TT = Not Completed

M = Medium

Based on the data in Table 1 above it can be seen that there is no classical completeness at pre-test and post test amounted to 85.71% and the average value of its gain of 0.49 with the criteria being. It shows that the learning process is given to increase student mastery of concepts in the subject of Plant Physiology students.

b) Science Process Skills

Science process skills used for troubleshooting or performing science experiments. Results of the assessment of science process skills that students have meaningful learning experiences. Science process skills assessment results can be seen in Table 2.

Table 3. Average Value At Every Indicators Process Skills Student Class A

Indicators of Science Process Skills	Student's number Average indicator
1	3,72
2	3,57
3	3,56
4	3,56
5	3,33
6	3,21
7	3,13
8	3,05
Average of Science Process Skills	3,34

Description: Indicators of Science Process Skills:

1 = formulating the problem

2 = formulate hypotheses

3 = designing experiments

4 = carry out experiments 8 = communicate

5 = collect data

6 = analyzed data

7 = draw conclusions

8 = communicate

Reporting in the form of qualification assessment by referring to student success criteria in accordance with the National Standards for Higher Education (SNPT) with learning assessment criteria with numbers ≥ 3 lettered B categorized either equivalent to ≥ 75 numbers.

Based on Table 4.6 in mind that the average value of science process skills in formulating indicators of problem 3.72, 3.57 formulate hypotheses, designing experiments 3.56, carry out experiments of 3.56, 3.33 collecting data, analyzing the data of 3.21, draw conclusions and communicate 3.05 3.13. In classical science process skills gained an average value of 3.4 with good criterion.

4. Discussion

1) Description Results of Learning Device Test On Standards Compliance Implementation of the National Curriculum of Higher Education (SNPT) and the Indonesian National Qualifications Framework (KKNI) In Plant Physiology Course

Implementation of the application of the learning device was observed by 2 observers. Observations were made during three meetings (activities carried out in the classroom), which is an implementation of the RPS. Based on the observed data can be seen that all the learning

activities very successfully. On average enforceability of learning at the 1st meeting obtained a score of 3.85 and reliability of 95.6%. On average enforceability of learning at the 2nd meeting obtained a score of 3.96 and reliability of 98.9%. On average keterlaksanaan learning at the 2nd meeting obtained a score of 3.92 and reliability of 97.8% (Ratumanan and Laurens, 2011).

The average score of the high and the excellent category were able to be obtained because all aspects of the learning activities successfully implemented so that students have a learning experience. Scope curriculum subjects Botany Advanced not only the content but also a learning experience (Rezulli, 1986). Important aspects of the observation are: the lecturer clearly communicate the learning objectives and activities undertaken ensure achievement of objectives. Step-by-step learning activities are interrelated and facilitate students to understand the concepts learned. Hands-on / teaching materials used in the study support the achievement of objectives.

The method used in the teaching and learning process have been effective and have been appropriately with the goal of learning. Some of the methods used in the classroom is the method of discussion, question and answer, presentations, assignments, observation, experimentation and practice material processing for further needs, as well as the practice field. Methods provided are appropriate to the learning strategy. The strategy used is the PPP approach, PBL, inquiri, STAD cooperative. Learning activities carried out in conformity with the characteristics of the High Level Botanical assess learning theory can be used and a basis for achieving the objectives through learning, ie learning theory of constructivism. James (2000: 31) states that constructivism widely embraced by the science teacher as a constructivist epistemology is fully consistent with the approach of inquiry, we see the principles are realized through laboratory investigation activities, cooperative learning to produce a positive thing in science. Furthermore Driver et al (1994); Kearney (2004) in Lee (2006: 8) states that constructivism provides a perspective on teaching and learning of science in the classroom, with a view to increasing the effectiveness of the teaching of science in improving student learning.

2) Learning Outcomes Implementation of curriculum based on the National Standards for Higher Education (SNDIKTI) and the Indonesian National Qualifications Framework (KKNI) In Plant Physiology Course

a. Mastery of Plant Physiology Concepts

Implementation of the curriculum that has been developed according to the National Standards for Higher Education (SNDIKTI) and the Indonesian National Qualifications Framework (KKNI) In Plant Physiology courses can improve student mastery of concepts. It is shown from the results of the evaluation data analysis concept mastery in the subject of plant physiology students between before and after the implementation of both the class A and class B. Pre-test was used to determine student mastery of the initial concepts before learning takes place, while the post-test was used to determine mastery of concepts students after the implementation of the National Standards Compliance Curriculum implementation of High Education (SNDIKTI) and the Indonesian National Qualifications Framework (KKNI) in the subject of Plant Physiology.

Based on data analysis (Table 4.4) it can be seen that the success of the students completed the test items on concept mastery indicator has increased after the implementation of learning in the subject of plant physiology. Increased thoroughness of items contained in the item number 1, 2, 3, 4, 5, 7, and 10. Meanwhile, on items 6 and 9 is not finished, it is because on item number 6 percentage completeness 70% and items number 9 percentage completeness 67%. It is not yet meet the criteria in accordance with SNPT with learning assessment criteria with numbers ≥ 3 lettered B categorized either equivalent to ≥ 75 numbers. The results of the analysis of the average n-gain students with moderate criteria. Based on the data in Table 4.5 above it can be seen that there is no classical completeness at pre-test, whereas in the post test amounted to 85.71% and the average value of the gain was 48.86 criteria (Hake, 1999). It shows that the learning process is given to increase student mastery of concepts in the subject of plant physiology.

Increasing student mastery of concepts in plant physiology due course curriculum coverage includes: content, experience, and product provided to students as a biology teacher candidates. Materials / subject matter combined with experiential learning (learning experiences), so the scope of the curriculum in terms of curriculum subjects plant physiology is not only the content of the form of understanding the basic principles of taxonomy, nomenclature and classification and function Spermatophyta, but the learning experience using a variety of teaching strategies teaching and learning process (Herliani, 2016: 6). Teaching strategies used are: PPP approach, PBL, Inquiry, kooperatif STAD

and experimental methods, discussions, presentations, frequently asked questions, experiment and practice LAB, assignments, observation, and practice field. Colin (2009: 4), states that the curriculum emphasizes the development of reflective thinking, developing individual and emphasizes the strategies used to achieve the curriculum, so that there is a curriculum that sense until the determination of the strategy is not just limited to the material to be learned by the students. Furthermore, Kennedy (2005: 37), paying attention to the curriculum in the context of a very important experience for the students a chance to add his experience.

At the time of the learning process takes place looks all students are actively involved in the activities and the orientation changes in learning, namely: learning more empowering all aspects of students' abilities; student-centered learning (student centered learning), independent study (self-directed learning) and self-understanding; learn to 'find' and 'build' (construct) its own draft, which is proven to improve student mastery of concepts; and a group of cooperative and collaborative learning are not only to teach thinking skills but also the capacity to teach students other skills.

b. Science Process Skills

Skills approach is part of the implementation process of learning in the curriculum of the National Standards Compliance Higher Education (SNDIKTI) and the Indonesian National Qualifications Framework (KKNI) In Plant Physiology Course. Science process skills can help students to solve the problem or performing science experiments. Indicators of science process skills consist of: 1) to formulate the problem, 2) formulate a hypothesis, 3) designing experiments, 4) carry out the experiment, 5) collecting data, 6) analyzing the data, 7) draw conclusions, and 8) to communicate. Results of the assessment of science process skills is students have meaningful learning experiences. From the analysis of the data evaluation process skills in the subject plant physiology, student values obtained with both criteria.

Based on the analysis of the data in Table 4.6 in mind that the average value of each indicator with the science process skills criteria. The lowest value of 3.13 on the indicator and the highest score of 3.72 on the criteria formulate problems. In classical results science process skills gained an average value of 3.4 with good criterion.

The explanation above shows that the students are able to carry out activities with good science process skills. Science process skills is an intellectual activity that is practiced by scientists to solve problems and produce the products of science. Skills processes performed by the students in accordance SNDIKTI curriculum implementation and KKNI on plant physiology courses among which define problems, formulate hypotheses, designing experiments, carry out experiments, collect data, analyze the data, draw conclusions, and communicate. Science process skills approach provides the opportunity for students to begin learning to understand learning problems first, then engage actively in activities and group discussions, and eventually skilled in science process learning outcomes obtained. On science process skills focused on understanding the problem first, is expected to provide exercise and abilities of each individual to be able to resolve the problems faced.

Process skills approach provides the opportunity for students to explore. It is seen from the students' ability to perform any activities both activities in formulating the problem, formulate hypotheses, designing experiments, carry out experiments, collect data, analyze the data, draw conclusions, and communicate. Karamustafaoglu (2011: 26), states that the science process skills are skills that enable students to develop a sense of responsibility in their own learning, improving learning permanency, and to teach them methods of research.

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IMPLEMENTATION OF SPIRITUAL ATTITUDE TO ENHANCE THE CHARACTER OF STUDENTS THROUGH LEARNING OF SOCIAL STUDIES

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Abstract

The objective of this research was to increase the character of Elementary School Teacher Education (ESTE) student implementation of the spiritual attitudes in learning of social studies. The spiritual attitudes as “one’s attitudes for and experience of connection with the essence of life,” which encompasses three main dimensions: connectedness with oneself, connectedness with others and nature, and connectedness with the transcendent. Connection with the essence of life is expressed by such aspects as experiencing meaning in life; gratitude, and God. The character of student is a discipline and work together. The research method used in this research is classroom action research. Design research used spiral models from Kemmis and Targatt and using procedure two cycle. The data collection technique was an observation, angket and test. Data analysis technique using percentage technique. Subjects of this research are ESTE student grade one in Salatiga Centre Java. The research result showed that: 1) implementation of the spiritual attitudes in learning of social studies is there is increasing the character of students, 2) implementation of the spiritual attitudes is love, kindness, wisdom, awareness, and integrity 3) an increase in the student's character in the form of an honest character, discipline, responsibility, work together and care

Keywords: implementation, the spiritual attitudes, learning of social studies, the character of student

1. Introduction

Nowadays we know that globalization and developmental of information technology have positive impact on humans, but also cause negative impacts that need to be aware of Crisis of ethics and morals of the nation like corruption, integrity, and violence, or the emergence of conflicts originating from difference and conflicts of different cultures are the negative impacts.

According to the National Education System of 2003 that education is a conscious and deliberate effort to create an atmosphere of learning and the learning process so that learners are actively developing the potential for the student have the spiritual strength of religious, self-control, personality, intelligence, noble character and skills needed them. Furthermore according to UNESCO, education should be built with the four pillars, namely learning to know, learning to do, learning to be and learning to live together. Education is not only oriented towards purely academic but also put it into practice to solve the problems of everyday life. Education is the basis for preparing a quality human being.

Education as part of efforts to produces quality human resources should not only develop

the aspect of knowledge and technology, but also teachers life morals and life values.

Fishbein (1967), the notion that attitudes consist of three components--affective, cognitive, and conative (action). Spirituality define as “one’s striving for and experience of connection with the essence of life,” which encompasses three main dimensions: connectedness with oneself, connectedness with others and nature, and connectedness with the transcendent. (Eltica de Jager Meezenbroek, 2012: 141-167).

Connectedness with oneself is expressed by such aspects as authenticity, inner harmony/inner peace, consciousness, self-knowledge, and experiencing meaning in life (Chiu et al., 2004; Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988; Howden, 1992; Hungelmann, Kenkel-Rossi, Klassen, & Stollenwerk, 1985; Mahoney & Graci, 1999; Young-Eisendrath & Miller, 2000). Connectedness with others and with nature is related to compassion, caring, gratitude, and wonder. Connectedness with the transcendent includes connectedness with something or someone beyond the human level, such as the universe, transcendent reality, a higher power, or God. Aspects related to the latter dimension are awe, sacredness, adoration

of the transcendent, and transcendental experiences. Although some reviews have mentioned other main themes besides connectedness, such as meaning in life, transcendence, power/energy and sacredness (Chiu et al., 2004; Hill et al., 2000; Tanyi, 2002), these themes can be considered part of one of the three domains of connectedness.

According to Peterson and Seligman (2010) the values are mentioned character strengths. Park, Peterson, and Seligman (2004) told that character strengths can be defined as positive traits reflected in thoughts, feelings, and behaviors. Wright and Huang (2008) define character as those interpenetrable and habitual qualities within individuals, and applicable to organizations both constrain and lead them to desire and pursue personal and societal good. Alwison (2006) said Positive character marked by behaviour that highlight the good and the true that is explicitly or implicitly. On the other said, Thomas Lichona (1999) said Children with positive character marked by moral knowing, moral feeling, and moral behaviour that continuously manifested either explicitly or implicitly.

Children with positive character require a fertile environment intentionally created, thus allowing the potential for children to grow optimally into character. Through a variety of experiences since the early development of the child have a great influence in their lives later on. The experience various instrumental in bringing about the formation of the so-called personality intact, which cannot be achieve except by developing the potential of children from an early age properly. Family environment filled with love bonds, mutual help, and the warmth of the relationship with each other has a big hand in shaping the personality of children with positive character. Therefore, the role of communication and public information of parents of children with all the content and complexity

The character of students is learning outcome of students achieved as the result of their exploration through science learning procces that cover of three aspects: 1) scientific attitude, 2) knowledge of science product, and 3) science process skills.

The objective of this research was to increase the character of Elementary School Teacher Education (ESTE) student implementation of the spiritual attitudes in learning of social studies

2. Method

The research method used in this research is classroom action research. Design research used spiral models from Kemmis and Targatt. The research procedure is at least two cycles. The subjects of the study were Elementary School Teacher Education (ESTE) students. The research variables consisted of a attitude spiritual and character.

The spiritual attitudes as “one’s attitudes for and experience of connection with the essence of life,” which encompasses three main dimensions: connectedness with oneself, connectedness with others and nature, and connectedness with the transcendent. The character of student is a discipline and work together.

The data collection technique was an observation, angket and test. The research instruments used were observation sheet, questionnaire and test. Data analysis technique using percentage technique.

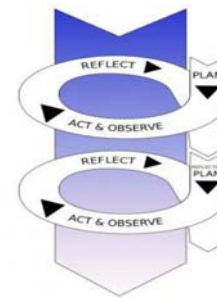


Fig 1
Classroom action Research Spiral Model by
C. Kemmis and MC. Taggart

3. Results dan Discussion

Learning social studies are designed using the natural environment and focus in spiritual attitudes. The steps of social studies are formulate the problem, review the literature, organize the instrument, data collection, data analysis, and make conclusions, presentation. Learning social studies is a cooperative learning. Implementation of learning in groups. Each group consists of 5 students.

The study of social studies uses the theme of self. Implementation of learning is observed using observation sheets. The grid of the observation sheet on the implementation of social studies study for spiritual attitudes as “one’s attitudes for and experience of connection with the essence of life,” which encompasses three main dimensions: connectedness with oneself, connectedness with others and nature,

and connectedness with the transcendent. Connection with the essence of life is expressed by such aspects as experiencing meaning in life; gratitude, and God. The grid of the observation sheet on the execution of social study for spiritual attitudes is: (1) connectedness with oneself, (2) connectedness with others and nature, and (3) connectedness with the transcendent.

From the observation of the activity of spiritual attitude in the study of social studies it appears that:

1. in the step of formulating the problem of self identity, students discuss to discuss the name of the tourist location in their respective areas. Students who discuss with their friends discuss about the problem of tourism location identity, meaning that students think about the identity of the tourist location is an activity related to yourself. Thus, student attitudes related to friends, is a spiritual attitude

2. In literature study, each student in the group listened to the material and internet browsing to study one tourist location near the campus.

3. In preparing the instrument, students prepare instruments to collect data with friends in groups. Thus, student attitudes related to friends, is a spiritual attitude.

4. The data collection was done at tourist location that is Rawapening. Students collect data in Rawapening in groups, by bringing their own instruments according to the social studies learning theme. Data collection was done by observation, measurement and interview. After completion of collecting data and information, when the reflection is done, then the gratitude for the beauty of nature, thanks to the data collection activities have been obtained and completed, gratitude can work with friends. This attitude is a spiritual attitude.

4. In the data analysis and make conclusions conducted on campus by discussing with friends in 1 group.

5. After all the steps are done, the last step is the group presentation. In the group presentation more emphasis on the confirmation means that the report submitted whether it is correct and input the necessary input.

All the learning steps have been done in accordance with the planning. This means that learning that focuses on the cultivation of spiritual attitudes has been achieved.

Furthermore, whether learning that focuses on this spiritual attitude can improve the character of students. Here are the results of the

assessment of student character. Character enhancement seen from the activity inside the campus which includes the activity of formulating the problem until the activity of organizing the instrument as a cycle 1, and cycle 2 is the activity on campus for data analysis until presentation of data collection results in the natural environment that is in the tourist location Rawapening.

The character of student is a discipline and work together.

From the class interval, it is known that the thresholds of each class and then the value of each student will be included as in Table 1

Table 1 Mean Categories of the honor a friend, discipline and work together.

Interval	Category	Value
$4,21 < \text{mean} \leq 5,00$	Very good	5
$3,41 < \text{mean} \leq 4,20$	Good	4
$2,61 < \text{mean} \leq 3,40$	Pretty good	3
$1,81 < \text{mean} \leq 2,60$	Poorly	2
$1,00 < \text{mean} \leq 1,80$	Not good	1

Elementary Teacher Training and Pedagogy student has character

The results of the student are presented in Table 2 below:

Table 2 Student Character

No	Indicator	Min	Max	Mean	Notes
1	Discipline	2	5	3,85	Good
2	Work together	3	5	4,25	Very Good
	Total Average Value			4,05	good

Based on table 2, student has character which has a total average value of 4,05 is included in the good category, it means that students of Elementary Teacher Training and Pedagogy have character is good. Meanwhile, in detail, each of the indicators is as follows: Students have a very good character of discipline which has mean of 3,85 is included in the good category, it means that students of Elementary Teacher Training and Pedagogy have character of discipline is good. In addition, for work together, which has mean value of 4,25 and 3,82 is included in the very good category, it means that students have character is very good.

Improvement of student discipline character is shown in detail through table 3 below.

Table 3 Frequency Distribution Of Student Discipline Character Of Cycle 1 And Cycle 2

Category	Cycle 1		Cycle 2	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Good	11	44	16	64
Enough	8	32	5	20
Less	6	24	4	16
Total	25	100	25	100

Table 3 shows the student discipline character associated with the spiritual behavior of cycle 1 which is: (1) connectedness with oneself, (2) connectedness with others and nature, and (3) connectedness with the transcendent activities showing good discipline character, and overall there are 44% of all disciplinary students in cycle 1 and increasing in cycle 2 to 64 %. Activities showing less discipline character, and overall there are 6% of all disciplinary students in cycle 1 and increasing in cycle 2 to 4 %.

Improvement of student work together character is shown in detail through table 3 below.

Table 4 Frequency Distribution Of Student Work Together Character Of Cycle 1 And Cycle 2

Category	Cycle 1		Cycle 2	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Good	10	40	13	52
Enough	10	30	7	28
Less	5	20	5	20
Total	25	100	25	100

Table 4 shows the student work together character associated with the spiritual behavior of cycle 1 which is: (1) connectedness with oneself, (2) connectedness with others and nature, and (3) connectedness with the transcendent activities showing good work together character, and overall there are 40% of all work together students in cycle 1 and increasing in cycle 2 to 52 %. Activities showing less work together character, and overall there are 5% of work together students in cycle 1 and stabil in cycle 2 to 5 %.

4. Conclusion

It is argued that one of the most important thing for improving competency student, specially students of Elementary Teacher Training and Pedagogy is innovation in teaching. Learning social studies are designed using the natural environment and focus in spiritual

attitudes. The steps of social studies are formulate the problem, review the literature, organize the instrument, data collection, data analysis, and make conclusions, presentation.

Spiritual attitudes is: (1) connectedness with oneself, (2) connectedness with others and nature, and (3) connectedness with the transcendent. There is an increase in student character that can be pursued through spiritual attitudes in acceptable social study learning. This is indicated by the improvement of the character of discipline with the criteria from cycle 1 to cycle 2 ie from 44 % to 64%; And the improvement of the character of work together with the criteria from cycle 1 to cycle 2 from 44 % to 64%.

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THE CONTRIBUTION OF LEARNING COMMUNITY TO IMPROVE QUALITY OF EDUCATION IN INDONESIA: (A CASE STUDY "KAMPUNG SINAOE" IN SIDOARJO)

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Abstract

The learning Community is learning activity done by kinds of group in the community. The learning result is obtained from the community cooperation. Learning community is an effort to involve community in developing education for the public interest in their role in life. Learning community requires willing attitude, interest to learn and lifelong learning. This study used a qualitative approach. This approach was used to provide a deep and detailed understanding with respect to an event or social phenomena that was contribution of the learning society "Kampung Sinaoe" in Sidoarjo as a form of educational improvement in the area of Sidoarjo. The purpose of this study was to describe the role of community in building a good quality of education in their environment. The strategy used in this study was a case study. The type of selected case studies is instrumental case study to overview a particular case to gain knowledge on an issue or insight for the improvement of the theory. This study examined the meaning of "Kampung Sinaoe" existence for people around Buduran subdistrict, Sidoarjo district, concerning on this role to run "Kampung Sinaoe" in the context of community development, and see how far the efforts undertaken by the "Kampung Sinaoe" to improve the quality of education for community local. The results showed that the main purpose of "Kampung Sinaoe" was to creatively share and serve, especially for supporting orphans and the poor often marginalized in their right of education. For the poor children and orphans around, Kampung Sinaoe encouraged them to come and learn together freely because their tuition was taken from subsidies of regular students' the payment.

1. Introduction

The development of science and technology brings great influence to human life, that causes problems from various aspects especially western culture coming into the country. One of the problem is the difficulty to adapt in globalization era for the citizens who have low education are not able to sort good culture to follow and possibly harm nation. Therefore, people who have a good level of human resources need to compete in the future. In the effort of human empowerment, education becomes a very important thing that can determine the success especially in facing the era of globalization.

Education has several factors that support the process of implementation; such as internal factors that include physical condition of students both physical and spiritual, while the external factors are family environment, school and society. Both of these factors must run equally because they have an equally important role to create education that can achieve the intended goals. Society is a factor that has a

considerable effect on student because of their existence in the community life that every day they can see (Slameto, 2010: 60-72).

To achieve maximum education requires the support of various resources from the family, community and government in order to realize a good quality of education. The support is not only in terms of material but also contribution in the form of personnel, participation in school activities and thoughts related to school progress. In addition, the community can also serve as a role model for students that can be seen everyday in the school environment. Nana Syaodih Sukmadinata (2005) mentioned that the formation of **learning communities** preceded by the individuals formation who become citizens. The transformation of individuals causes them to be mature and hard-working individuals, consumptive individuals to be productive, recipients to be givers. Individuals who easily give up on people are persistent in changing circumstances, demanding a fundamental change for individual personality. The change begins with perceptions and attitudes changes, both to themselves, and to

the environment, opportunities, threats and obstacles encountered. Then, it proceeds with growing confidence, and motivation to move forward. The confidence characteristics is about having the strength, potential and ability to grow motivation to change, willing to learn, willing to try, then can begin learning activities.

The concept of learning community originated from John Dewey. In 1916, John Dewey observed that children will learn when they participate in social settings. Then, a few decades later, Jerome Bruner (1996) states that a person makes meaningful knowledge based on his relationships and one's participation in specific communities or cultures. This shows based on the observations of the two experts that the learning community becomes one of the aspects in one's learning. Similarly, the model developed by Getzels and Thelan explaining how a class exists in relation to the roles and expectations in a classroom setting to meet the objectives of the system (school / class). This dimension is called the dimension of a class group. From this perspective, class behavior is determined by school or class norms (expectations). Life in the classroom is ultimately determined by students who are individually motivated and the teacher's response to each student in a social setting. Thus, it will eventually form a learning community to obtain the desired environment that is creating a class that is motivated to learn both academically and socially.

Based on those phenomena, the most important thing to be considered by teacher is the motivation of students to learn. Motivation becomes one of the most important factor compared with student's personality or students character, and student's motivation to learn is very fragile and changeable. in fact, being motivated this day, but not tomorrow. The concept of the learning community is the most important factor in social life in relation to the teaching and learning process. In contrast to a collection of individuals, the learning community is a setting where the learning objectives are mutual for both parties (mutual), and shows their concern for the learning of each individual member. The learning community becomes medium that will encourage the learning process of each member.

One of the learning community integrated with the surrounding community can be found in Sidoarjo, East Java, Kampoeng Sinaoe. Kampoeng Sinaoe Sidoarjo is a set of learning community education center located in Sidoarjo. Located in the village of Siwalanpanji Buduran subdistrict, in the middle of the

settlement in which the population is quiet, beautiful, and comfortable. The nuance of nature and conducive environment to teaching and learning process. Kampoeng Sinaoe Sidoarjo emphasizes learning on the spiritual, moral, emotional, and social that are paralleled the cognitive, affective, and psychomotor. Implementing the value of decency, honesty, togetherness, sincerity, independence, and responsibility along with intelligence, critical thinking, and analytical skills becomes the main foundation for success in learning. Kampoeng Sinaoe Sidoarjo provides a range of support facilities to support successful learning for learners in the form of Hot Spot, a library, classrooms open (Gazebo), parking area, shop sianoe and many others. Similarly, various community activities are provided free of charge. Even so, the cost of learning is affordable for all walks of life. Cheap but not cheap, cheap but good quality.

Kampoeng Sinaoe Sidoarjo provides several optional concentration such as Al Falah Islamic Learning Course (FIC) which provides intensive English language learning, guides domestic and foreign scholarships, etc. Institutions Tutoring Visca Aflah (VIA) which provides specialized learning for Subjects mastery were tested in the National Examination (UN) and the preparatory for State University subjects (PTN) such as Mathematics, Indonesian, Natural Sciences (IPA), Social Sciences (IPS), and others. Salam Al Fa lah (SAF) provides mastery in learning computer skills. There are about five neighborhoods that permit their area for learning. Each concentration of learning is taught in people's homes. This shows that there is an important role of community learning community to promote education in the surrounding environment. With this fact, the author has thought to investigate more about The Contribution Of Learning Community To Improve Quality Of Education In Indonesia: (A Case Study "Kampung Sinaoe" In Sidoarjo).

There are several problems that will be studied in this research, they are the factors that influence the community in advancing education in the learning community in Siwalan panji kampoeng sinau, the role given by the community in improving the quality of education through Siwalan panji kampoeng sinau,, the constraints that become the obstacles in the implementation of learning community in Siungapanji village. The condition of society in Siwalan Panji Village is a form of contribution and participation of society in supporting the progress of education either in the form of

thoughts or as personnel owned by the community.

2. Method

This research used qualitative approach by describing words or phrase based on phenomenon seen so that can yield a conclusion (Arikunto, 1998: 245). According to Bogdan and Taylor (in Moleong, 2002: 3) qualitative method is a research procedure that produces a data in the form of a written word or oral from the behavior of people who can be observed.

Researchers use qualitative methods because this study is more concerned with the process than the results. In addition, the issues discussed are not related to the figures but in the form of words and images processed in such a way that can create a description, description of what efforts and roles undertaken by the community in building kampoeng sinau to establish advance Education in the surrounding environment.

The sources of data used in this study are:

Primary data

The data were collected from parties related to the object of research on the role of society in advancing education through kampung sinau in Siwalan Panji Village, district of Sidoarjo. The related party / informant is the founder of Kampung Sinau, named Pak Ahmad Zamroni, S, Hum. and also the community and village heads in Siwalan Panji village of Sidoarjo district.

Secondary data

Secondary data in this research is a document, in the form of notes about various events or conditions that have value or significance to support data in this research. The document is in the form of books, photos of activities, interview notes, or recordings used when the researchers conducted research on the role of the community in advancing education through the learning community of kampoeng sinau in Siwalan Panji village, district of Sidoarjo.

The method used in this research are:

Interview Method

In this study the interview was conducted to obtain data and information from Siwalan Panji villagers to know about the role that is done in advancing education through the village program sinau.

Method of observation

In this study, researchers conducted a direct study on the implementation of the role provided by the community to promote

education, economic conditions and education Siwalan Panji villagers.

Documentation method

Documentation method is the activity of looking for data or variables in the form of written objects such as books, documents, regulations, photos, inscriptions and so on (Arikunto, 1998: 151). This method aims to obtain data relating to research on the role of society in advancing education through the program of Sinau Village. Documentation is very important to be used as evidence in which it can be justified its validity and can be used at any time.

3. Results

Implementing roles in education will definitely bring a change for the community. The purpose of the implementation of the role in education is the main aspect to help improve the quality of human resources in the community. The purpose of the education itself is to build the intellectual life of the nation. However, in the implementation of education is not separated by the role of the community as written in Law number 20 Year 2003 Article 8 and 9 which explains that the community is entitled to participate in the planning, implementation, supervision and evaluation of education programs and is obliged to provide source support Power in the organization of education. From the article is very clear that the role of the community is needed for the progress of education in their respective regions.

Relating to the implementation of the role of the community can be realized by establishing good relationships with the community to build a trust in the community, in order to obtain support that can help the implementation of teaching and learning process and provide progress for both the school and community. Thus, the relationship between Siwalan Panji Sidoarjo communities with kampoeng sinau Program to produce a good progress in the academic and economic for the surrounding community is needed.

Factors influencing the establishment of kampoeng sinau in Siwalan Panji Village of Sidoarjo district.

The realization of kampoeng sinau inspired the desire of its founder, Mohammad Zamroni to teach since first grade of junior high school until college graduation in 2005 in Malang. In early 2006, one by one the

neighbors around him began to trust him to teach privately at home. Then the people around Siwalanpanji know him better as an English teacher. By the time Kampoeng Sinaoe at Sidoarjo was originated from the name of Al-Falah Islamic Course (FIC) is a place in the centre of Sidoarjo and surrounding communities. There are several factors that influence the establishment of Kampung Sinau namely the impetus to share that is not compete, the desire to help people around the less fortunate, and want to empower the surrounding community to promote mutual education and economic seiktar through learning community known as the village of sinau.

The role of communities to improve the quality of education through kampoeng sinau in Sidoarjo

The role given by the community in improving the quality of education by providing yard and their their living room for learning for students or adults who want to study in kampoeng sinau. the locations are spread in five neighborhood (RT) that provide yard as a means of learning. There are several classes included in kampoeng sinau program like social classes, literacy classes, and camp. Social class consisted of students who are invited to share by looking for less fortunate communities in the village to be given donations. It is very helpful for the economically disadvantaged citizens. The community also provides facilities for students who are attending camp programs. There are several houses that are ready to be used as lodging for foreigners or domesticers who want to stay to study in the village of sinau.

Constraints as obstacles in the implementation of learning community in Siambapan, Siwalapanji village

Constraints existing are the belief of parents to entrust their children to study in Kampung Sinau. This is triggered by several factors because kampoeng sinau does not prioritize cognitive factors instead of developing the character of learners. For example, students are invited to review all materials with teachers on Thursday and also students are invited to establish a hut together as a place to learn. Teachers who teach in Kampung Sinau are alumni not from other graduates of other institution. Thus, there are other perspective of on kampoeng sinau.

4. Discussion

The learning community built through the village gives benefits to the community as

well as to the learning students. Learning community is a learning activity to invite involvement of students in the learning process, and ultimately the achievement of learning goals. In order to realize a good and cohesive learning community, in a class must have various positive characteristics such as:

Relationships among individuals to care for each other

High expectation of teacher for students' learning outcomes

Inquiry (the process of finding out) is productive in learning

A positive learning environment

Creating a learning community (learning community) is not easy. There is no good learning process that can be created without a good learning community. The creation of such conditions requires the actions of the surrounding community that fully support the progress of the quality of education.

Recalling the framework of the relationship between individual and groups by famous social psychologist: Kurt Lewin (1939, and 1956) and some of his colleagues, who are interested to know how a combination of human needs and environmental conditions to explain human behavior. Getzels and Thelan (1960) apply these ideas in the field of education. They then developed a two-dimensional model to explain how the relationship between individual student needs and living conditions in the classroom. The first dimension of the model describes how, in a class, there are students with various motives and needs. This perspective can be termed as the individual dimension of classroom life. From this perspective class behavior will be produced as a manifestation of the personalities and behaviors of all students and their actions in the effort to fulfill the motives and needs of each individual.

The second dimension of the model developed by Getzels and Thelan describes how a class exists in relation to the roles and expectations in a classroom setting to meet the objectives of the system (school / class). The second dimension is called the dimension of a class group. From this perspective, class behavior is determined by school or class norms (expectations). Life in the classroom is ultimately determined by students who are individually motivated and the teacher's response to each student in a social setting. Thus will eventually form a learning community to obtain the desired environment that is creating a class

that is motivated to learn both academically and socially.

The concept of the learning community is the most important factor in social life in the classroom relating to teaching and learning process. In contrast to a group of individuals, the learning community is a setting where in the community are learning objectives that are mutually (mutual), and shows their concern for the learning of each individual member. Community learning becomes medium that will encourage the learning process of each member.

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USING VIRTUAL LABS TO ENHANCE STUDENTS' THINKING ABILITIES, SKILLS, AND SCIENTIFIC ATTITUDES

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Abstract

Educational problems are very complex problems, so it takes a solution to overcome those problems, especially in the 21st century. Educators are expected to disseminate learning by utilizing the development of 21st century technology, educators must also be able to develop technology-based learning media with reference to the school curriculum. The transformation of technology in the digital era provides a wide range of beneficial effects on the science learning process. One important impact of the development in digital era that can be utilized in science education is virtual laboratory. Virtual laboratory is a media that can provide direct experimental visualizations, interactive virtual environment, practical experimentation, to do experiments more efficiently, and be able to save on purchasing experimental tools. Learning by using a virtual laboratory can also be done anywhere and anytime without taking the class lessons. This study is aimed to determine the effect of virtual laboratory based learning model on students' thinking abilities, skills, and scientific attitudes. This research used qualitative descriptive research method. The data analysis techniques used refers to the data analysis model by Miles & Huberman (1994), including components: reduce data, display data, draw conclusions, and verify. This paper reviews the 23 articles on students' thinking abilities, skills, and scientific attitudes toward virtual laboratory. This paper has been published in Indonesia and several journals have a scopus index reputation from 2010 to 2016. The results showed that the virtual laboratory is able to enhance students' problem solving, critical thinking, creativity, conceptual understanding, science process skills, lab skills, motivation, interest, perception, and learning outcomes. Therefore, educators need to use virtual laboratories to improve teaching quality and student learning outcomes.

Keywords: virtual lab, thinking abilities, skills, scientific attitudes

1. Introduction

Science is a subject related to laboratory activities. It is a knowledge of natural phenomena involving inquiry and discovery through the hands-on and experiments under the guidance of the teachers [1]. In the science learning, the laboratory activity is much more important as providing opportunities for the students to perform various kinds of hands-on [2]. The laboratory activities are expected to help the students acquiring the technical skills. Through the experimental activities, the students will have direct experience, conceptual understanding, and long-term memory. Furthermore, current experiments can be carried out using developments in the field of information technology [3].

The development of digital era technology provides various positive impacts in supporting the success of science learning process. Information technology can be used as an alternative to facilitate the needs of interactive laboratories in schools. One impact of the

development of the digital age that can be utilized in the field of education is a virtual laboratory. The virtual laboratory offers exciting lab processing and simulation facilities, the ease of use of tools, and more accurate results [4]. The virtual lab is a learning medium that can provide direct experimental visualization, interactive virtual environment, practical experimentation, and do the experiments more efficiently. Through the virtual lab activity, the students have the opportunity to repeat the wrong experiment and deepen the experience independently [5-6].

In practice, virtual labs provide various benefits in achieving the expected learning outcomes. The use of virtual laboratories addresses some of the problems encountered in traditional laboratories and contributes positively in achieving learning goals [3]. The virtual labs provide opportunities for learning by doing at a cheaper, more secure, and widely used cost [7]. Although the virtual labs cannot replace traditional laboratories, the use of the virtual labs greatly facilitates the learning process of science. However, the development of computer

hardware and software enables educators to incorporate virtual technology into future teaching strategies recently [8].

The virtual laboratory uses computerized models, simulations, and various other instructional technologies to replace traditional lab activities [5]. It provides many advantages. It is done in the cyberspace so experimentation does not harm yourself or others. The affordable simulation costs, once developed, the tool can be used repeatedly at no additional cost. The virtual lab allows students to work independently or collaboratively regardless of the school laboratories, chemicals, and equipment available [9]. Thus, this study aims at determining the effect of the application of virtual lab aided learning to students' thinking, skills, and scientific attitudes.

2. Method

This study uses qualitative research methods. The qualitative research is an activity of collecting, analyzing, interpreting data, and reporting of interpretation result [10-11]. Content analysis is one of the qualitative research methods used to analyze and interpret textual data content [12]. In the research method, there are various data collection procedures, including tests, questionnaires, interviews, observations, diaries, and journals [13]. The data analysis techniques used refers to the data analysis model by Miles & Huberman [14], including collection, reduction, presentation of data, and conclusions. In this study, the researchers conducted a content analysis of 23 papers about the benefits of virtual labs in science learning. The papers have been published in Indonesia from 2011 to 2016. This study has been being conducted from February to April 2017.

3. Results and Discussion

Research on the influence of learning model (assisted by Virtual Laboratory) and interest in learning on the ability of creative thinking chemistry. This research shows that there is influence of learning model with Virtual Laboratory assisted on creative thinking ability, interest in learning, interaction between learning model and interest in learning on creative thinking ability in chemistry subject. The results showed that there were two groups with different mean values of creative thinking ability on chemistry subjects and two groups did not have an average difference [15]. The Virtual Laboratory is able to increase students' learning motivation on chemistry subjects, the students' learning motivation on acidic and bases titration

titration is categorized high with an average score of 73.28% [16]. Virtual Laboratory can influence psychomotor students on Reaction Rate practicum in Class XI Science SMAN 7 Sarolangun. The results showed that there was a significant effect on student psychomotor on reaction rate material in class XI Science 1 (experimental class) SMAN 7 Sarolangun [17]. While [18] conducted the application of Virtual Laboratory-based PHET Simulation with direct instruction. Student activity using the Virtual Laboratory (PHET Simulation) on the reaction rate material is categorized high. There is a difference in mean scores before and after learning, but there is no difference in the progress of experimental class learning with the control class. 87.72% of students said the virtual laboratory as the latest learning, ease to understand the lessons of 94.76%, help complete the task and make it easier to solve the problem of 56.14%, Increase student motivation 89.47%, and virtual lab suitable for use in other subject equal to 82.46%. [19] Virtual laboratory on chemistry subjects as an alternative learning to improve student learning outcomes at chemical tadris program at IAIN Walisongo Semarang. The use of Virtual Laboratories can effectively improve student learning outcomes. [6] The use of laboratory applications in learning chemistry is very important, so as to increase the influence of student achievement 90 students from 3 different classes in class IX. Data collection was used before and after learning using virtual lab and analyzed using SPSS version 16. The development of virtual laboratory applications developed has the same effect with the lab as well as in the introduction aspects of laboratory equipment and the improvement of student learning outcomes. The same is also explained by [3] in his research entitled *The Effect of the Virtual Laboratory on Students' Achievement and Attitude in Chemistry*. Learning chemistry using a virtual laboratory can help students understand learning and improve student learning interest, since learning using virtual laboratories is rarely used in Turkey. Prepared 16 experiments using virtual laboratory applications to help Turkish public schools and the results have a positive influence on improving student achievement and attitudes compared to conventional learning. [20] reveals that learning is more interesting, more effective, can summarize learning time, can improve the quality of learning and teaching and learning process can be done anywhere and anytime by utilizing virtual labs and E-Reference in the learning process and research on Chemistry. Cost savings of research and research that cannot be

done because of the limitations of tools in the real laboratory. The weakness of the Virtual Laboratory for troubleshooting can be synergized with E-References.

Research conducted by [21] that the use of virtual lab media on physics subjects can influence student problem solving. The guided Inquiry learning model based on the real laboratory and virtual laboratory is better than the direct learning model as an effort to improve students' physics learning outcomes. The guided inquiry learning model in the real laboratory and virtual laboratory has significant interaction with the direct learning model so as to increase the activity and the students' learning outcomes on the subject of physics [22]. While [23] developed a virtual laboratory on kinematics material with vector analysis on physics lessons in Class XI. The virtual laboratory on Kinematic materials and Vector Analysis in the XI class of SMA deserves to be used in physics, practical and effective learning used in Physics learning can be seen from the increasing student learning outcomes. The activities and perceptions of students in applying virtual laboratory as a media of learning on modern physics in high school are in 80% of each criterion with regard to demonstration, concept, calculation, problem practice, categorizing, explaining, presenting and creating process in learning. Whereas learners' perceptions about virtual lab implementation are in the strongly agreed category shown by 91.03% [24]. So also with the Student Perceptions of the Virtual Laboratory Utilization in Physics Learning Straight Motion Topics (Survey of Students of Class X SMAN 87 South Jakarta) received a positive response. Student understanding and learning experience can be improved by using a virtual laboratory, this is reinforced by student statements that most expressly agree to use virtual labs and students better understand the concept of straight motion [25]. The development of learning media in the form of virtual laboratories conducted by [26] to overcome misconceptions on core physics materials at SMAN 1 Binamu revealed the result that the instructional media in the form of virtual laboratory as a presentation model and tutorial on radioactive activity and the penetration of radioactive rays obtained valid results and Reliable. The virtual lab view comes with navigation, hints, hyperlinks to make it easier for users; Learning tools in the form of RPP, reading books, LKS made in softcopy and hardcopy so easy on autorun via CD; Learner activity above 85% and learners' perceptions about virtual laboratory of 93.05% indicating strongly agree;

There is a better understanding of concepts than before using a virtual lab. [27] conducted a study entitled The use of virtual and simulated teaching and learning environments: Inviting gifted students into science, technology, engineering, and mathematics careers (STEM) through summer partnerships. Based on the research result, it is found that students have motivation in learning by using technology. [28] research on Effects of 3D virtual simulators in the introductory wind energy course: a tool for teaching engineering concepts, This research provides innovative solutions in effective learning and is able to improve the postsecondary education by developing virtual simulators that can be integrated with the school curriculum. Critical acquisition of educating and training a professional generation in industry, the development and implementation of virtual simulators in the accompanying curriculum will foster national reform in the United States, Thus meeting the needs of the wind energy industry movement and addressing the broader educational issues in a number of disciplines. [29] Research on virtual laboratory and learning management system in optimal control theory education, learning using virtual lab and Remote in technical education designed using Java programming language. Development of a virtual laboratory that uses Java Simulations and is integrated with Moodle in control theory education. While [30] the use of virtual laboratory can improve students' skill in biology education program in using microbiology tools for 45 students taking microbiology courses. [31] Researching on Virtual Laboratory Implementation to Support High School Learning, some subjects require activity in laboratories such as Biology, Mathematics, Chemistry and Physics. It takes a laboratory tool that can be used anytime and anywhere so as not to interfere with the lesson, virtual lab is a computer application that can be used to experiment with low cost.

Effectiveness of the development of Virtual Laboratory can improve the ability to increase critical thinking but has no significant difference to the scientific attitude of high school students on the concept of metagenesis of moss and nail plants. This is indicated by the difference in mean value of critical thinking ability of class X students of MIA 4 (Control class) with class X MIA 3 (experiment class) whereas students' scientific attitude there is no difference of average value in Control class and Experiment class [32]. Meanwhile, according to [33] who did research on A Virtual Lab in Research

Methods. Virtual labs are superior to the real laboratory for the overall value earned. Because students prefer the convenience and ease in doing research. When compared to traditional learning, more time is needed in completing tasks and communicating with students. The results provide an overall assessment of the aspects of leadership, exercise questions, and values. There is a significant difference in the leadership aspect shown by $F(5.185) = 5.8$, $p < 0.0001$. Possible aspects of leadership have an effect on the exercise value rating and its parts. The leadership aspect correlates with exercise rank, $r(191) = 0.37$, $p < 0.0001$, and the assessment aspect, $r(191) = 0.46$, $p < 0.0001$. Virtual labs can be easily applied to modifications that can be adapted to the curriculum. It is also suggested by [34] who studied the Out of the classroom and into the laboratory: Teaching digital curation virtually and experientially. Virtual labs must be able to complete and refine the latest curriculum in digital subjects. The digital learning is offered at the LIS School at Simmons College, Boston which describes the virtual and experimental approach as an innovative learning. There is a relationship between the digital curriculum laboratory, the successful delivery of a digital curriculum and has broader implications. So it is with [35] who is researching about A Systematic, Inquiry-Based 7-Step Virtual Worlds Teacher Training. This study determines teachers' perceptions of the effectiveness of virtual teacher training using systematic 7 steps, determining teacher attitude change due to involvement in this workshop activity. Changes in attitudes of teachers were statistically significant with large effect sizes, the effectiveness of teacher training resulted in 14 practical guidelines that could inform teacher training models using virtual laboratories by revising 4 steps so that they could be used generally or specifically with little adaptation depending on teacher and student population.

Based on the 23 articles reviewed, virtual labs have a positive effect on improving problem solving skills, critical thinking, creative, conceptual understanding, science process skills, lab tool skills, motivation, interests, perceptions, and learning outcomes. Educators are expected to be able to develop or apply learning using virtual labs tailored to the curriculum in schools. The use of virtual labs can reduce the purchase of laboratory tools and learning by using a virtual laboratory can be done anywhere and anytime without interrupting the classroom learning time.

4. Conclusion

The results showed that the virtual laboratory is able to enhance students' problem solving, critical thinking, creativity, conceptual understanding, science process skills, lab skills, motivation, interest, perception, and learning outcomes. Therefore, educators need to use virtual laboratories to improve teaching quality and student learning outcomes.

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EFFECT OF COGNITIVE STYLE-BASED LEARNING STRATEGY TO STUDENTS' CONCEPTUAL UNDERSTANDING OF SCIENCE AND PROCESS SKILLS

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Abstract

In the context of learning, process skills are skills used by students in finding knowledge through a learning process. They are important element of in depth learning so that the knowledge will be processed into long-term memory. In addition, they will form an indispensable scientific literacy which is needed in solving the problems. This study is part of the research and development of cognitive style-based learning strategy for elementary students. It performed Dick and Cary's R & D model to investigate effect of the learning strategy to students' conceptual understanding of science and process skills. Research subjects in the tryout are 6 grade student of SDN Pasar Lama 1 Banjarmasin. Base on the Mann-Whitney U or t test, it found that students' conceptual understanding of science and process skills increased significantly as the effect of learning strategy. Students' conceptual understanding as well as their science process skills have increased from poor to good category. Science process skills most developed are classifying and measuring skills, while experiment skill is an integrated process skill less developed. Students with field independent (FI) cognitive style tend to have conceptual understanding and process skills better than field dependent (FD) one. This findings show the important of the learning strategy to consider students' characteristics especially their cognitive style to facilitate them learn optimally. This learning strategy combines hands-on and mind-on activities in the frame of guided scientific problem solving by considering the student's cognitive style. Therefore, this learning strategy can be applied to increase students' conceptual understanding of science and process skills even problem-solving skills.

Keywords: cognitive style, learning strategy, science concept, science process skills, field independent, field dependent

1. Introduction

Science should be taught as the scientists carry out investigations to explain the phenomena of the universe or discover new knowledge [1]. Ref. [1] assert that all students have to learn about the nature of science and the work that scientists do; learn to do science (i.e., developing the abilities to design and conduct scientific investigations); and understand scientific concepts and principles [2]. So, learning science requires the use of process skills and supported by various scientific attitudes such as skepticism, curiosity, and open to ideas. In the context of learning, this process skills are skills used by students to investigate the world around them and to construct their knowledge

Ref. [3] reported that there is a tendency that the higher the grade level of students, the better the integrated science process skills them

for junior high school students average score of integrated science process skills of grade 7 < grade 8 < grade 9, while the high school students grade 10 < grade 11 ≈ grade 12; the average score of students' science process skills both junior and senior high school students are still relatively poor, 49.7 and 60.83 respectively; integrated science process skills that is less developed involve formulating hypotheses and making operational definitions.

Generally, science learning in elementary schools do not reflect the learning process in accordance with the nature of science, yet. Learning process still emphasize to master the knowledge through expository learning strategy [4]. Such strategy would not be able train the process skills [5], i.e. basic process skills include observing, communicating, classifying, measuring, relating the object with time and space, as well as integrated process skills as

predicting, concluding, controlling variables, making operational definitions, and conducting experiments.

Science process skills have an important role in developing communication skills, critical thinking, problem solving, and the ability to use and evaluate the evidence [6]. Mastery of science process skills enable learners to learn in depth and meaningful, and vice versa meaningful learning can be done by applying the process skills.

Science learning can take place in depth only if students fully engaged in the activity of multilevel analysis in achieving learning outcomes (content or new skills). Psychologically, fully engagement can be achieved when the science learning take place meaningfully [7]. It mean that learning should involve scientific approach activity like identify and formulate the problems, make predictions or hypothesis, collect data, interpret data and make inferences, are the stage of finding a fact or knowledge [8].

Science process skills will help students to connect new experiences with previous knowledge and develop the critical thinking skills in finding solutions to the problems. Process skills may support development of scientific literacy [9], [10], [11], the individual's scientific knowledge and the use of knowledge to identify questions, acquire new knowledge, explain scientific phenomena and draw conclusions based on evidence and willingness to engage in science-related and scientific ideas.

Learning science is just not transferring knowledge to students, but learning science should be able to develop process skills as the basis of scientific literacy development. Therefore, students not only know about the facts, concepts, principles, laws and phenomena of science, but they are also able to apply this knowledge to solve problems in everyday life. At Indonesia, learning science has not been able to improve the scientific literacy of students. In 2012, Indonesia was placed at rank 64 of 65 countries, with scores below the OECD average score [12], and in 2015 was placed at rank 63 of 71 countries [13].

Achievement both science knowledge and process skills are highly depend on the learning strategy and student characteristics such as cognitive development and cognitive style. Cognitive development related to one's readiness and ability to perform a certain development tasks including learning, while cognitive style refers to a person's preferred way to process information. According to [14], "Cognitive styles refer to differences in people's preferred way of

processing (perceiving, organizing, and analyzing) information, using cognitive brain-based mechanisms and structures. Many research show that cognitive style affects the students learning outcomes [15], as well as students ability in problem solving. Students with a field independent (FI) cognitive style shows many characteristics as analytical, individual and independent, while students with a field dependent (FD) cognitive style tend to be global, social and less independent in perceiving, remembering, thinking, and problem solving [16], [17]. Although there is a tendency that FI student achieve learning outcome better than FD student, both FI and FD can be successful in learning as long as it is used the appropriate strategy to their style [18].

This study have examined effect of cognitive style-based learning strategy to students' conceptual understanding and science process skills, which indicate the effectiveness of that strategy in science learning.

2. Method

This research applied the design research and development model of Dick & Carey [19]. This study is the step of field trial evaluation to evaluate effectivity of the cognitive style-based learning strategy. Field trial evaluation was conducted at SDN Pasar Lama 1 Banjarmasin. This learning strategy concise of following stages: *Attention* (@), *Understanding Problem* (Un), *Exploration* (E), *Sharing* (Sa), *Game* (G), *Assesment* (A) and *Individual Task* (In) or be abbreviated to @UnESa-GAIn.

Students' conceptual understanding and science process skills were measured by using test both before and after learning science that applied cognitive styles-based learning strategy. The effect of applying the learning strategy was determined based on the n-gain scores of conceptual understanding and science process skills. In order to justify significantly of the learning strategy effect, pretest and posttest score were analyzed by difference test using SPSS version 17. It is also conducted difference test to know the difference between FD and FI students' achievement.

Rating category of science concept understanding and process skills score are 80-100 = excellence; 70-79 = good; 60-69 = moderate; 0-59 = poor. Meanwhile, n-gain score rating category are $0.70 < \text{n-gain} = \text{high}$, $0.30 \leq \text{n-gain} \leq 0.70 = \text{moderate}$ and $\text{n-gain} < 0.30 = \text{low}$.

3. Results

a. Conceptual Understanding

Fig. 1 shows the science conceptual understanding of SDN Pasar Lama 1 Banjarmasin students based on indicators of learning materials.

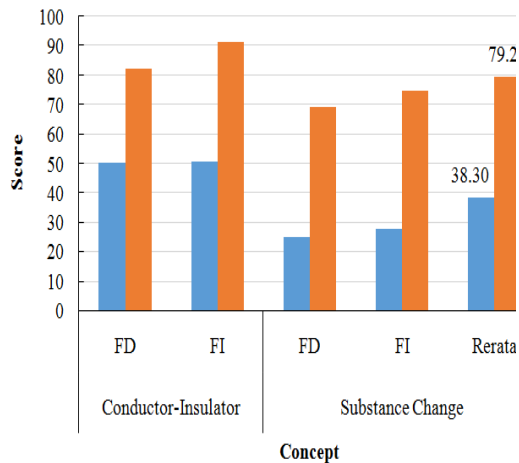


Fig.1 Science conceptual understanding of SDN Pasar Lama 1 Banjarmasin students

■ Pretest, ■ Posttest

Fig.2 show the n-gain score of students' conceptual understanding of science after they have participated in learning process applying @ UnESa-GAIn strategy. The students' conceptual understanding have achieved a moderate to a good category. Based on Wilcoxon/t difference test using SPSS version 17 (Table 1) shows that students' conceptual understanding of science before (pretest) and after participating (posttest) the learning process is significantly different.

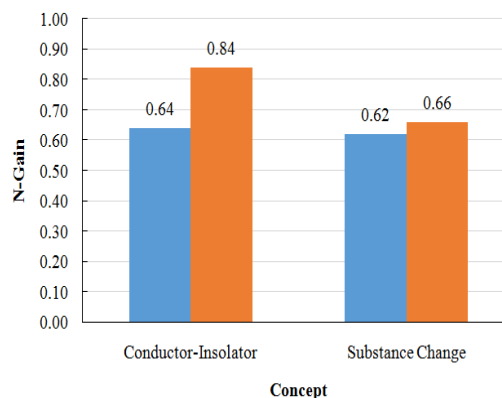


Fig. 2 N-gain score of science conceptual understanding of SDN Pasar Lama 1 Banjarmasin students

■ FD student, ■ FI student

increasing of conceptual understanding between FD and FI students is significantly different in conductor insulator concept, but not in substance change concept.

b. Process Skills

Fig. 3 shows the students' process skills before and after participating learning process that applying cognitive styles-based learning strategy. The average of students' science process skills has achieved a good category. Based on t difference test (Table 3) show significantly different between students' science process skills before and after participating the learning process. Science process skills with the low score are conducting experiments, which is an integrated process skills.

Fig. 4 show the n-gain score of students' science process skills of SDN Pasar Lama 1 Banjarmasin base on their cognitive style. Students with FI cognitive style have the process skills n-gain score higher than students with FD cognitive style. Difference t test (Table 4) show that the process skills of FD and FI students differ significantly.

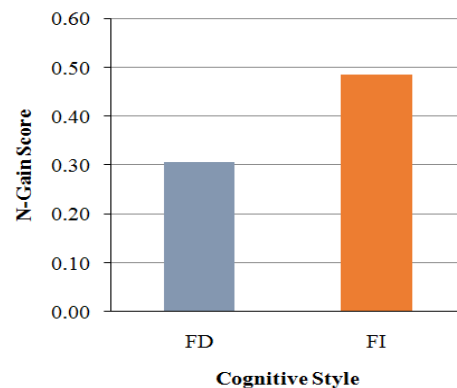


Fig. 4 N-gain score of process skills of SDN Pasar Lama 1 Banjarmasin students base on their cognitive style

Table 1 Difference Test of Science Conceptual Understanding of SDN Pasar Lama 1 Banjarmasin Students Before and After Participating the Learning Process

Difference Test of Conductor Insulator Conceptual Understanding between before and after Participating the Learning Process ($\alpha = 0.05$)			Difference Test of Substance Change Conceptual Understanding between before and after Participating the Learning Process ($\alpha = 0.05$)		
		Conclusion			Conclusion
Wilcoxon Test	Note		Wilcoxon Test	Note	
P value $0.000 < 0.05$	Data are not normally distributed	Ho is rejected, significantly different	P value $0.000 < 0.05$	Data are not normally distributed	Ho is rejected, significantly different

Table 2 N-gain Score of Students' Science Conceptual Understanding of SDN Pasar Lama 1 Banjarmasin Base on Their Cognitive Style

Difference Test of Conductor Insulator Conceptual Understanding between Students with FD and FI Cognitive Style Isolator ($\alpha = 0.05$)			Difference Test of Substance Change Conceptual Understanding between Students with FD and FI Cognitive Style Isolator ($\alpha = 0.05$)		
		Conclusion			Conclusion
Mann-Whitney U Test	Note		T Test	Note	
P value = 0.029 < 0.05	Data are not normally distributed	Ho is rejected, significantly different	t value 0.789 < 2.03951 (t table at df = 31; $\alpha = 0.05$)	Data are normally distributed	Ho is accepted, no significant difference

Table 3 Difference Test of Science Process Skills of SDN Pasar Lama 1 Banjarmasin Students before and after Participating Learning Process

Difference Test of Science Process Skills between Before and After Participating the Learning Process ($\alpha = 0.05$)		Conclusion
t test	Note	
t hitung 36.590 > 2.03693 ($\alpha = 0.05$; df = 32)	Data are normally distributed	Ho is rejected, significantly different

Table 4 N-gain Score of Students' Science Process Skills of SDN Pasar Lama 1 Banjarmasin Base on Their Cognitive Style

Difference Test of Science Process Skills between Students with FD and FI Cognitive Style ($\alpha = 0.05$)		Conclusion
t test	Note	
t value 4.373 > 2.03951 (t table at $\alpha = 0.05$; df 31)	Data are normally distributed	Ho is rejected, significantly different

4. Discussion

Cognitive styles based learning strategy is designed to train students the ability to solve problem scientifically by considering their cognitive development and cognitive styles. Because elementary student have a concrete cognitive development, therefore, it is needed enough guidance in solving the problem so we also call this learning strategy as guided problem solving learning strategy. In addition, the differences in information processing between FD and FI students, it is need to provide scaffolding in accordance with each characteristics so they can learn optimally. Ref. [15] states that this learning strategy have evaluated by experts and have stated as very valid.

The learning strategy is designed not only to deliver the science content knowledge, but also to train process skills as the basic of science problem-solving. The study showed that the average students' conceptual understanding of science concepts after learning process achieved a good category. Students tend to better in understanding of conductor-insulator concept than substance change concept. It may be caused the former was more known by the students in daily life than the latest one. So it help students in constructing their knowledge. For instance, the use of equipment associated with conductors and insulators such as kitchen apparatus, iron, and other home apparatus, have been very well known by students and even they often use them. Meanwhile, the substance change concept may be foreign for them although the phenomenon also occurs in everyday life such as corrosion, water evaporation and food spoilage.

Science learning by applying this strategy can facilitate student in depth learning so that information processing will take place into long-term memory. This strategy also involve the rehearsal game stage, which gives students the opportunity to repeat and deepen concepts through fun games. Based on the Atkinson & Shiffrin information processing theory [20], repetition and fully involvement in the learning process will provide a greater opportunity to information to be processed into long-term memory.

This study find that science conceptual understanding of students has increased in the moderate to good category where FI students tend to increase better than FD students, which is indicated by n-gain average score of 0.63 and 0.75 or in medium and high category, respectively. The significantly difference increasing between FD and FI students was

occurred in the concept of the conductor insulator.

Many studies have been reported that FI students tend to have a better ability than FD students related to cognitive function in various disciplines of subjects such as science [21], mathematics [22], the science-physics [23], writing skills: general, narrative, argumentative [24], and some of the lessons [25].

The less difference in increasing of science conceptual understanding between FD and FI students indicate that the design of learning strategy was able to accommodate both of cognitive styles and students' psychological aspects as attention [25] and perceptual ability [26], [27], which give a great contribution on cognitive abilities.

Cognitive style accommodation is given in the form of stage variation and scaffolding activities in accordance with the needs of each student's cognitive style. The learning activities concise of analysis, synthesis, individual tasks (preferred by FI students), collaborative games (preferred by FD students). Scaffolding given in order to facilitate each of them to learn optimally. It is performed integrate to student worksheet in the form of guidance in problem solving, verbal guidance and others. They are delivered during the learning process. Even, before teacher apply this learning strategy, it is suggested to habituate student with problem solving and inquiry activities using direct instruction strategy. Ref. [28] and [29] assert that students' understanding of science concepts is enhanced when students are actively engaged in the learning process and when it is coupled with guidance and scaffolding.

Application of learning strategy @ UnESa-GAIn can improve students' conceptual understanding of science as well students' science process skills to good category. Students were trained in applying the process skills (formulating problem, making prediction, measuring, classifying, making inference/conclusion, and communicating data) to solve science problems. This study prove that the use of the learning strategy is able to enhance students' science process skills significantly. Improvement of science process skills reach a moderate category, according to n-gain score. This finding support to the findings of [30], [31], and [32], where inquiry-based learning can improve students' process skills significantly.

This research also found that science process skills most developed are classifying and measuring skills, while experiment skill is an integrated process skill is less developed. These results support the findings of [32] that students' sub-scientific process skills were improved and

the greatest improvement were detected especially in the students' skills measurement, correlation/ classification, and forming hypothesis.

Conducting experiments is the process skills which is too complex for elementary school students. It was measured just to know what is the extent of the skills have been developed in elementary students. Even, Ref. [2] reported that the integrated process skills of Junior High School students are still in the poor category with the score of 49.70. There is a tendency that the higher the grade level of students, the better their science process skills. Integrated science process skills that are less mastered by students is forming hypotheses and making operational definitions that are part of the conducting experiment skill. Similar result were reported by [33] that the grade 6 students have an integrated process skills which are lower than grade 7 and grade 8. It sign that continually training through the learning using appropriate strategy, will improve students process skills,

This learning strategy combines hands-on and mind-on activity in the frame of scientific guided problem solving by considering the student's cognitive style. Therefore, it can be applied to train students in developing the conceptual understanding and science process skills even problem-solving process.

5. Conclusion

Cognitive styles based learning strategy, @ UnESa-GAIn can improve the conceptual understanding and science process skills of elementary school student. Students' conceptual understanding as well as their science process skills have increased from poor to good category. Science process skills most developed are classifying and measuring skills, while experiment skill is an integrated process skill is less developed. Students with field independent (FI) cognitive style tend to have conceptual understanding and process skills better than field dependent (FD) one. Because, science process skills affect to students' science literacy, the learning strategy is expected able to improve science literacy of elementary school students.

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CULTURE FOR EDUCATION AND EDUCATION FOR CULTURE

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Abstract

Education in the context of the wider community life can not be separated in the context of social and cultural change. Culture is a reflection of a nation. Indonesia has thousands of diverse cultures. Entry of foreign culture and mingle with globalization, urbanization, the influx of technology and communication. Slowly and unwittingly pushing to shift what we have included culture. A cultural shift for the better or the worse is always an option with real consequences and tend to shift to the decline of culture possessed. The role of education is important in maintaining and preserving the culture. The purpose of Indonesian culture is a sustainable and independent culture. Independent in the sense that no other culture but the culture colonized Indonesia awake and side by side with other cultures based educational course with continuous culture in accordance with their respective regional culture. Education and culture like north and south magnetic poles are mutually strengthened when put together. Culture can not be sustainable without an education as well as education without culture would have been meaningless. This qualitative study involves collecting literatur are supported by interviews a variety of sources in order to find appropriate educational concept for the preservation of the culture of each region. The advantages and potential of regional culture needs to be preserved in the form of multicultural education. Regional culture needs to be developed in order to be sustainable. Sustainable culture will be the hallmark and character of Indonesian culture which culminated in a national culture. This study is expected to be referansi in determining the direction of education policy both at local and national levels.

Keywords: *culture, education, school.*

1. Introduction

Along with the advancement of the times, the traditions and culture of the region which is firmly held, has been maintained and maintained by every tribe, is now almost extinct. In general, people feel prestige and shame still exist and use local culture or regional culture. Cita people choose to display and use the arts and modern culture from the culture that originated from the region itself which is the original local culture or local culture that is in accordance with the personality of his nation.

Education in the wider context of community life can not be interdependent in the context of social and cultural change. Culture is a reflection of a nation. Indonesia has thousands of cultural diversity. The entry of foreign culture and mingle with globalization, urbanization, the entry of technology and communication. Slowly and unwittingly pushes to change what we include culture. Shifting the culture into better or worse is always an option with real and consequential consequences. The role of

education is important in maintaining and preserving culture.

Education is practically inseparable from cultural values. In preserving and preserving their own culture, the process of transferring them most effectively by way of education. Both are very closely related to complement each other and support between satu each other.

The goal of education is to preserve and always improve the culture itself, with education we can transfer the culture itself from generation to generation. And also we as society aspire to the realization of society and better culture in the future, then by itself our education should be better again.

Education can not be accepted with cultural values. In maintaining and passing on the culture of the nation itself, the most effective transfer media is with education. Between Education and Culture are very close to complement each other and support each other.

Education is practically inaccessible with cultural values. In preserving and preserving oneself, the most effective way of transferring

them is by education. The hands are so tight because they complement each other and support each other.

The purpose of education is to preserve and always improve the culture itself, with the education we can transfer the culture itself from generation to generation ini. And also we as the community aspire to the realization of society and better culture in the future, it is by itself education we should be better.

For that education has a very big role in the process of cultural inheritance so that the value of national culture is needed is applied. Education as a pillar of culture and from the culture that will be developed later education for the welfare of the people of Indonesia.

2. Method

This qualitative study involves collecting lithologies supported by interviewing various sources in order to find an educational concept appropriate for the preservation of the culture of each region.

Literally the meaning of culture (culture) comes from the Latin Colere, which means working on the ground, cultivate, or maintain the fields. By Ashley Montagu and Cristper Dawson, culture is defined as the way of life, which is a certain way of life that exudes a certain identity of a nation. Meanwhile, according to Koentjoroningrat, culture is the whole system of ideas, actions, and all the work of human beings in the framework of community life which is made man's self by way of learning (Gering Supriyadi: 2003).

Culture as a result of human beings, in its various forms and menifestasinya, is known throughout history as a human property that is not rigid, but always evolving and changing and nurturing human beings to adapt to the cultural changes and challenges of the traditional age to enter the modern age.

Humans as intelligent and cultured beings are always trying to make changes. With its creative and dynamic nature, humans continue to evolve to improve the quality of life that continues to advance, when nature is controlling humans with an iddiness that is not idel curiosity (the growing sense of curiosity) the longer the sense of power, inventiveness and the cargo has dadpat change the nature into something Useful, then nature is controlled by humans. Culture is a human work that includes philosophy, art, literature, religion, interpretation and assessment of the environment.

Education is an activity of receiving and providing knowledge so that culture can be

passed on from generation to generation. According to Hasan Langgulung in his language on education is an activity done by education and philosophy to explain the process of education, align, criticize and change it based on the problems of cultural contradictions.

Viewed from an individual point of view, education is an attempt to weigh and link individual potential. As for from a societal point of view, education is an effort to inherit the cultural values of the older generation to the younger generation, so that cultural values are preserved, Hasan Langgulung writes.

So it is clear that education and culture are very closely related because both are sustainable, both are mutually supportive of each other.

In this context can be seen the relationship between education with cultural traditions and the personality of a society however simple the community. It can be seen that tradition as a cultural content is always preserved in every society, from generation to generation. This relationship would only be possible if the proponents of that value could write it to the younger generation as the next generation.

The most effective transfer of cultural values is through the educational process. In modern society the process of education is based on formal education programs. Therefore, in the implementation of institutionalized formal education.

As stated by Hasan Langgulung that education includes two main interests, namely the development of individual potential and the inheritance of cultural values. So it is clear that the two things are education and culture is closely related to the view of life of a society or nation, respectively, the two things can not be separated because of mutual need between each other.

It is said with the opinion of Hasan Langgulung that education in relation with individuals and society, but can be seen how the relationship between education and human resources. From the point of view of individual education is an attempt to develop the potential of individuals, otherwise from an educational society point of view is the inheritance of cultural values.

In this view, education carries two main tasks, namely increasing individual potential and preserving cultural values. Man as a civilized being, is essentially the creator of culture itself. The culture then improves as the human potential of the culture creator increases.

3. Results

Cultural inheritance can be done by means of education, both formal and nonformal. In order for the cultural tradition to survive and develop every society can pass it on to the younger generation through education. But in the cultural context many people question our education. Why does the education system not strengthen and develop its own culture? Why is our nation easily influenced by foreign cultures? Why is our indigenous culture unable to withstand the coming globalization interventions? Is our education so far can be used as a means of cultural inheritance or not?

These questions illustrate anxiety about how education actually works. The education that has been hoped to be an effort to establish the behavior / culture process and cultural values planting, has not succeeded in bringing learners to develop their own attitude and culture. Instead, they are trapped in cultural contact with foreign cultures that do not necessarily have value Which is good to apply in social life. Therefore, the values that have been inherent in the community (local wisdom) need to be developed through national education, because indirectly in the process of learning (education) in schools has occurred the process of culture to learners.

Education is an effort to develop the human potential of learners both the potential physical potential of creativity, taste, and karsanya, so that potential becomes real and can function in the course of his life. The basis of education is the universal aspiration of humanity. Education aims to prepare the individual in balance, unity. Organic, harmonious, dynamic. To achieve the goal of human life

One element of that culture is science. According to Suriasumantri (1999), science can be viewed as a product, process and ethical paradigm. As a product, science is the result of social activities that seek to understand nature, man and his behavior either individually or in groups. What science produces as it is today is the objective reasoning (ratio). Science as a process, means science is derived from the results of scientific methods that are generally recognized and universal nature. Therefore science can be tested truth, so it is not impossible that an established theory can be subverted by other theories. Science as an ethical paradigm, because science other than universal, communal, as well as convincing and skeptical tools, not easy to accept the truth (Soelaeman, 2001).

In addition to the strategies and learning models we have studied together, there are other new learning strategies that are being developed

by education in Indonesia, which are culture-based learning.

The central core of culture itself is the historically acquired and historically selected ideas, especially the relevant values. Cultural systems can be regarded as the result of action and as an element that influences subsequent action. Viewed from the form, there are two forms of culture, namely subjective culture and objective culture. A subjective culture is the inner value of truth, virtue, and beauty. While the objektif culture is the birth of the form of materialization and institutionalization.

One of the new and developing learning strategies is cultural-based learning. Cultural learning is the creation of learning environments and the design of learning experiences that integrate culture as part of the learning process. This approach is based on the recognition of culture as a fundamental part of the education, expression, and communication of ideas, as well as the development of knowledge.

In cultural-based learning, culture is integrated as a tool for learning to motivate students to apply knowledge, work cooperatively, and perceive the interrelationships between different disciplines. As a learning strategy, culture-based learning encourages imaginative, metaphorical, creative thinking, and cultural awareness. Culture-based learning makes.

The learning process as an exploration arena for students and lecturers in achieving understanding and achieving a rational scientific understanding in a particular field of science. It also embodies skills development to the extent of expertise, and seeks strategies to achieve understanding and develop those skills.

Cultural-based learning also makes culture an arena for learners to transform their observations into creative forms and principles about nature and life. Through this approach students do not simply imitate and / or accept only the information conveyed, but to create meaning, understanding and meaning of the information obtained.

The learning process in culture-based learning focuses on the student's strategy

1. Be able to see connectedness between concepts / principles in the field of knowledge, with culture, in a variety of new contexts and cultural communities.

2. Gain an integrated understanding of the field of science and culture as the foundation of critical thinking, solve various problems in the context of cultural communities, and make decisions.

3. Can participate actively, happy, and proud to learn the field of science and culture

4. Can create meaning based on the initial knowledge and experience possessed, through various active interactions with other students and teachers

5. Can gain an understanding that there are rules of science in everyday life in the cultural community, and also there is a culture in the context of the field of science

6. Can gain an integrated understanding and scientific pregnancy in perceiving something around it.

In terms of faculty, culture-based learning focuses on creating a dynamic learning environment, which recognizes students' existence with all their background, experience, and initial knowledge, and gives students the opportunity to freely ask, mistake, express, and draw conclusions about Various things in life. In this case, the role of teachers becomes changed, no longer as the sole informer that dominates the learning activities, but becomes the designer and guide of the learning process.

Culture as a research discourse is lifted and measured through a complementary study from various points of view. The culture that has been revealed only revolves around the issue of 'cultural practice' and even 'strives for a high cultural dichotomy - low culture, national culture-foreign culture and / or local culture' (Hikmat Budiman, 2001). 'Cultural phenomena' have not been alluded to in cultural discourse, whereas the constellations are very strong with the science foundation referring to the above. Cultural symptoms are signs that are predictive and can depart from the historical culture of practice above.

Culture is a unit of knowledge, beliefs and habits that are relative; Depending on the human ability to learn and pass it on to others or to the next generation. Culture can also be interpreted as a habit of trust, social order and custom of racial groups, beliefs or social groups. However, Kuntowijoyo (1995) draws on cultural understanding from history ... "culture is one of the forces of history." Therefore, understanding historical progression can not leave abandoning analysis or sight of culture. "

Lately present a cultural study (cultural Studies), which is a scientific study and cultural praxis that is raised critically through intuition and deepening of knowledge. The study of cultural praxis as if the reviewer or researcher did not do research work, but cultivate cultural events from the historical roots experienced. This

kind of study is naturalistic and has not been raised as a scientific research, if put into the category of positivism theory. Scientific studies of cultural parties are designed just like a judge asking *peskitan*; The question will lead to the answer of the prisoner, so that the 'dictator of judges' is instrumental in determining the death sentence and free of charge against the prisoner. If so then cultural studies as a research base should be 'punishment design'.

Seminars on cultural research (this time) will not only view culture as a prisoner; Will be declared successful according to the definition of culture by

'Judge researchers' who notabenenya is the domination of desire. The perfect researcher does not use the powers of deciding which research objects and the results are like but rather the combination of the cultural rails and the thinking of the research direction. Cultural objects are no longer as cultural 'potential' but determined to find those provisions. This pattern of naturalism is lifted up in scientific studies. So; If an artist finds a work of art through opposes the practice of work, has not been recognized as the process of research, but as experience of work.

The object of research becomes very rigid, positivism groups look from the corner of the eye, not the taste. The process of human work can not be incorporated into the category of cultural process research, so that the object of cultural research is no longer a human experience that poured in the systematic but rather like a bill to ensnare the people.

Culture-based education is a mechanism that provides an opportunity for everyone to enrich science and technology through lifelong learning. The emergence of a cultural-based education paradigm is further fueled by two major currents. First, depart from the assumption of modernism that has reached the point of culmination that tends to make people to return to things that are natural (natural).

Secondly, modernization itself requires the creation of democracy in all demands of human life. Departing from it, education is to be managed more optimally by providing the widest possible place for the participation of the community with the content of the value culture (local policy) as part of the content objectives of education¹⁴.

As an implication, education becomes a collaborative effort involving participation and the role of the cultural value system wisdom in it. Participation in this context is cooperation between citizens and government in planning, implementing, maintaining and developing educational activities.

As a cooperation, the society with its culture is assumed to have aspirations that must be accommodated in the process of planning and implementation of an educational program that is based on the roots of its own cultural value system.

Furthermore, the era of decentralization-autonomy also has an impact on the increasing freedom that people have for designing and implementing education according to their own needs. As a result, efforts to provide education based on culture based education today are increasingly widespread¹⁵.

In the traditional view, education is seen as an activity that aims or as a way to achieve goals that are outside the educational process itself.

For example, Aristotle's view of education as a means to assist in the achievement of happiness, a better life, and a final state. That is, it is understood here that education is a means to an end, assuming that the process is separate¹⁶.

It is still growing in the community, as if it has become a kind of eternal aikon. That education is one way to be smart as well as living well. Has a high honor and prestige in society, a symbol of authority and various other idioms associated with material achievement.

Another case, according to Leo Tolstoy, education has no primary target outside education itself. Precisely the goal to be achieved in education is derived from the process itself, namely the process of how to "understand" the reality that exists. Thus, education is closely related to culture. That is, this concept summarizes all values in the culture of society that still exist.

From the exposure can be seen no doubt that the link between education and culture is very absolute. Education is the "process" (culture) of human beings to develop their qualities towards a better direction¹⁷.

Culture-based education is a democratization of education through the expansion of educational services for the benefit of society. Culture-based education becomes a community awareness movement to continue lifelong learning in overcoming all life changing challenges and increasingly severe.

The concept and its application have in common with the pattern of community-based education, as Zubeidi wrote in his book "Community Based Education" 2005. But note also that the community itself is in the great auspices of a culture.

The society that creates culture, and then the culture that colors and affects society. Cultural-based education, of course, has more significance. It's just that culture-based education

has a material review in terms of cultural value as a transfer to learners, while community-based education refers more to community involvement itself in education operations.

Conceptually, culture-based education is a model of education that rests on the principle of "cultural concept, culturally driven and to create a new culture of more than the previous culture".

Education with the concept of culture means education provides answers and solutions to the creation of a culture based on the needs of society, of course with the values and systems that apply in it. Culture education means the community as the owner of the culture with all the order of value and the system is placed as the subject / actors of education, not the object of education. In this context, all the elements surrounding society can play an active role in creating a culture that surrounds the society itself, more specifically by other researchers.

Often we hear words or statements about the culture of a society. Society is a collection of people who live in a certain area in a long time and have rules that govern them to the same goal. While humans are a source of culture and society is like a big lake where the water from the sources that flow and accommodated in it. Humans take water from the lake, so closely the relationship between society and culture. Culture is impossible without society. Similarly, the existence of a society can only be maintained with the existence of culture.

Society, population and culture there are 3 important things that will not be separated role in the life of society. Society has an important role in the development of the culture around us. So also the population, without any community and culture, the lives of the residents in a region will be monotonous. As an example, in the absence of a cultural society will not be preserved. Imagine if in a region there are people who are rich in culture, but none of them have the awareness to preserve the culture, then the culture will disappear just like that.

Culture has a close relationship with the community. Everything that is contained in society is determined by the culture owned by the society itself. The term is "cultural-determinism". The relationship between the population, society, and culture that is the population causes the happening of society and society have their own culture. These three things can not be separated from human life. Population and culture are concepts that are closely related to one another. Settlement of the population

within a certain area within a certain time, allows for the formation of communities in the region. This means that the community will be formed when there is a population so it is unlikely there will be a society without population, society formed by the population. Culture is a characteristic possessed by a community resident who was born from generation to generation from a region or country. Culture among others is in the form of beliefs, customs, arts, morals, values and norms, and so on.

Rapid population growth encourages the growth of aspects of life that include social, economic, political, cultural, and so on. Unlike other creatures, humans have advantages in life. Man can exploit and develop his mind. The use and development of reason has been revealed in the development of culture, both spiritual *kebudayan* and cultural *kebudayaan*. Akibat of this cultural development, has changed the way of thinking in fulfilling the needs of human life.

Similarly, the relationship between society and culture, this is a singular duality, a two-relationship one in the sense that culture merukan results of a society, culture can only be born, grow and develop in society. But otherwise there is not a society that is not supported by culture. The relationship between society and culture is also a determining relationship.

4. Discussion

The superiority and potential of regional culture need to be preserved in the form of multicultural education. Cultural areas need to be developed in order to be sustainable. A sustainable culture will characterize and characterize the Indonesian culture that culminates in the national culture. This research is expected to be a reference in determining the direction of education policy both at local and national level.

Law of the Republic of Indonesia number 20 of 2003 on National Education System (UU Sisdiknas) formulates the functions and objectives of national education that should be used in developing educational efforts in Indonesia. Article 3 of the National Education Law states, "National education functions to develop and shape the character and civilization of dignified nation in order to educate the nation's life, aiming for the development of the potential of learners to become human beings who believe and pious to God Almighty, noble, healthy, , Capable, creative, independent, and become a democratic and responsible citizen ". The purpose of national education is a formulation of the quality of Indonesian human beings that must

be developed by each unit of education. Therefore, the formulation of national education objectives is the basis for the development of cultural education and the character of the nation.

To gain insight into the meaning of cultural education and the character of the nation should be expressed understanding of the term cultural, national character, and education.

The notions herein are put forth technically and are used in developing these guidelines. Teachers of Anthropology, Citizenship Education, and other subjects, whose terms are the subject of related subjects, still have the freedom to fully discuss and argue about those terms academically.

Culture is defined as the whole system of thinking, values, morals, norms, and beliefs (beliefs) of human beings produced by society. The system of thinking, values, morals, norms, and beliefs is the result of human interaction with each other and their natural environment. The systems of thought, values, morals, norms and beliefs are used in human life and produce social systems, economic systems, belief systems, systems of knowledge, technology, art, Humans as social beings become producers of systems of thinking, values, morals, norms, and beliefs; But also in interaction with fellow human beings and the realm of life, man is governed by the system of thinking, values, morals, norms, and beliefs he has produced. As human life continues to grow, the real is the social system, economic system, belief system, science, technology, and art. Education is a planned effort in developing the potential of learners, so that they have a system of thinking, values, morals, and beliefs that are inherited by their community and develop the heritage in the direction appropriate for present and future life.

Character is the character, character, morality, or personality formed by the internalization of virtues that are believed and used as the basis for the worldview, thinking, acting and acting. Virtue consists of a number of values, morals, and norms, such as honest, courageous, trustworthy, and respectful to others. The interaction of a person with others fosters the character of society and the character of the nation. Therefore, the development of the character of the nation can only be done through the development of one's individual character.

However, since humans live in certain social and cultural environments, the development of one's individual character can only be done within the social and cultural

environment. That is, the development of culture and character of the nation can only be done in an educational process that does not release learners from the social environment, cultural society, and culture of the nation.

The social and cultural environment of the nation is Pancasila; So the cultural education and character of the nation must be based on the values of Pancasila. In other words, educating the culture and character of the nation is to develop Pancasila values in learners through liver, brain, and physical education.

Education is a conscious and systematic effort in developing the potential of learners. Education is also an effort of society and nation in preparing its young generation for the sustainability of life of society and nation better in the future. Sustainability is characterized by the cultural inheritance and character possessed by society and nation. Therefore, education is the process of cultural inheritance and character of the nation for the younger generation and also the process of developing the culture and character of the nation to improve the quality of life of society and nation in the future. In the process of cultural education and character of the nation, the learner actively develops his potential, performs the process of internalization, and appreciation

Values become their personalities in socializing in society, developing a more prosperous society, and developing the life of a dignified nation.

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The purpose of Indonesian culture is a culture that is sustainable and self-sustaining. Independent in the sense that there is no culture other than the colonized culture of Indonesia awake and coexist with other culture-based education courses with sustainable culture in accordance with their respective regional culture. Education and culture such as north and south magnetic poles are mutually strengthened as they are unified. Culture can not be sustained without education and education without culture will be meaningless.

Cultural values are values that are agreed upon and embedded in a society, the scope of the organization, the community environment, rooted in a habit, beliefs, symbols, with certain characteristics that can be distinguished from one another as a reference of behavior and Responses to what will happen or are happening.

Cultural education and character of the nation is basically the development of values derived from the viewpoint of life or ideology of

the Indonesian nation, religion, culture, and values that are formulated in the goals of national education.

The planning and implementation of cultural education and the character of the nation are carried out by all members of the school community and apply them into the curriculum through self-development programs, integration in subjects, and school culture.

education culture and character of the nation in the learning process using a learning process approach that is now developed is student-centered active learning and is done through various activities in the classroom, school, and community.

Starting from the implementation of decentralized government system, it also affects the reorientation of Vision and Missions of National Education in which also concerning the Standards of Management of National Education System. The impact also on the Principles of Implementation of Education, Development and Development Strategy of National Education. These things, especially based on the nature of decentralistic itself, given the geographical, social-cultural and economic conditions of each region (provinces) are different from each other. Therefore, the implementation of education to achieve more optimal results, effective, efficient and successful, requires the linkage of various elements. Implementation of autonomy towards educational institutions materialized in School Based Management or School Based Management. Because School Based Management is an effort of independence, school creativity in enhancing partnership, participation, openness, and accountability in quality improvement through cooperation or empowerment of government and society, hence also necessary administration of education in school relation with society.

The relationship of education with the community has the same interrelationship and dependency each other (symbiotic). The community desperately needs a good education service, and of course it can be passed through educational institutions to prepare themselves and meet the needs and expectations of a perfect life. To fulfill this, the institution needs the community to service according to their wishes. Educational institutions can not exist without society, otherwise society can not achieve a perfect life without educational institutions. In various educational issues especially with regard to the weakness (problematic) of education management of an educational institution, it can not be burdened or blamed the community as a user of education services. The relationship of

education to the community is a network of interactions that the school seeks to promote in order to be accepted in the community to get aspirations, sympathy from the community, to promote good cooperation between schools with the community for the common good, or specifically for schools. The relationship is to mensuksuk educational programs that are in school.

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THE EXPLORATION OF JAVANESE ART VALUES AND CULTURAL VALUES IN KETHOPRAK PERFORMANCE AS THE MEANS OF ESTABLISHING CHARACTER VALUES FOR YOUNG PEOPLE

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Abstract

Kethoprak is one of the traditional performing art derived from Java. As one of the local culture, *kethoprak* contains various noble values which can be source of Javanese wisdom. The combination of art values and cultural values in its every performances can reflect cultural local wisdom that can be source of knowledge and as the way to establish education character values, especially for young people. Exploration of the values which is contained in *kethoprak* are studied based on *kethoprak* performance, covering language aspect, stories material (literature), its staging strategy and education character values than can be relevanted in learning. In this research, the data is collected by observations, doing interviews and document analysis. The data is analyzed through interactive technique which appropriate with research purpose. This research is expected to increase the utilization of Javanese cultural form especially *kethoprak* performances as a way to build good character of young people.

Keywords: kethoprak; character education; cultural preservation

1. Introduction

Java society especially in Central Java, East Java dan Yogyakarta should be proud of the cultural varieties they have. The rich noble values culture which grew and developed until now is inherited from the ancestors. Looking deeper, Javanese culture not only unique, aesthetic, or distinctive from its outer structure, but also contained rich values in the cultural, moral, social, and religion in it. One such cultural form is *kethoprak* performance. *Kethoprak* is a form of folk theater art, which currently often staged, particularly in Central Java and Yogyakarta. Various themes used in many *kethoprak* stories, such as the spirit of struggle, patriotism, romance, sacrifice, power struggles, and other human life problems. Generally the stories is adapted from folklore, whether in the form of fairy tales, legends, myths, *panji* stories, which has grown and developed in Java. However in its development *Kethoprak* also showed legends or myths from out of Java. *Kethoprak* never took the story that comes from the story of Mahabharata or Ramayana, because these stories are located in the category of puppet story.

Historically *kethoprak* first appeared around the 1930s. There are several opinions on the history of *kethoprak* appearance. *Kethoprak* was born in Surakarta in 1908, created by Raden Mas Tumenggung Wreksodiningrat. At that time, the play was told about a farmer who was hoeing in the fields. The main actors are Mbok Gendro aka Nyi Badur and Wisanggoro. Sometimes they acted excessively and very funny, so the audience called it with *badutan* or jokes also called *lawakan*. In accordance with the name of the main dancer, dance performed at the time called *joget Gendro* (Gendro dance). Conversation or dialogue is partially performed in the form of song or *tembang* (poetry), in part with colloquial language (prose) or in Javanese literature is called *gancaran*. Thus the conversations used in *kethoprak* covering three types, namely poetry, prose and drama (Lisbijanto, 2013: 6).

Another opinion told by R.M. Soedarsono (1972), *kethoprak* is a folk dance that is not so old enough. *Kethoprak* is a dance drama society-based created by Raden Mas Tumenggung Wreksodiningrat from Surakarta in 1914. The next source is based on *Serat Pustaka Raja Purwa*. It is said that regardless of where it from,

when it was born and who its creator, *kethoprak* really grew from and for the people of whose life from agriculture.

As a form of role art, *kethoprak* is created based on drama script which has purpose to be performed on stage. It also can be said a theater process. Diranagara (2011: 17) said a theater process, *kethoprak* refers to the formula of dramaturgy. The term dramaturgy itself originates from the Dutch 'dramaturgie' which means the doctrine of drama art (leer van de dramatische kunst), or from the English 'dramaturgy', that means the art or technique of drama writing and its presentation in the form of theater, or briefly can be called art theater (Harymawan, 1993: iii). In the theater, the elements that need to be considered not only about the text content of the story but also the technique of presenting the story. Aspects such as the voice of a character, motion, acting ability and improvisation will support the success of story telling. So, in *kethoprak* performance, it does not only involve the story aspect but also the ability of the performers in presenting the story on stage.

The attractiveness of a *kethoprak* story is substantially supported by several aspects, from the story itself to the presentation of the story. In general, the audience will see both aspects as a unity that can not be separated from each other. When viewed more deeply, *kethoprak* has a lot of lessons from each segment that is displayed, both from the aspect of the story structure and presentation on the stage. For example in terms of story structure, *kethoprak* not only shows the dialogues between the troops directly, but the dialogue is often packed in the form of *tembang macapat* or Javanese song. The contents of *tembang macapat* or Javanese song adapted to the theme raised in the story, as well as the type of *tembang macapat*. *Tembang macapat Asmarandana* for example, suitable for sung at romance scene or romantic segment. The types of *tembang macapat* itself is essentially a description of the human life cycle from birth to death. Similarly in *kethoprak* scenes. The story shown could be a fragment of the phases of human life. Therefore, the combination between dialogue that is conveyed directly and the discourse which is packed in *tembang macapat*, is a form of communication that is full of philosophy and the value of Javanese art and culture.

Beside from the substantive aspect of the story, there is a lot of value that can be related as a means of character education for the young generation from the side of the show. Many *kethoprak* scenes that reveal attitudes and

behavior manners. This can be an example for the Javanese young generation, who today is further away from the value of manners. The discussion of Javanese arts and cultural values in *kethoprak* arts performances will be more meaningful if associated with the values of character education, as an effort to optimize the function of cultural forms in order to improve the quality of human resources, which are competitive, but still use the cultural values as its base.

The study of Javanese arts and culture values found in *kethoprak* performance, will be reviewed based on *kethoprak* story, ever performed by the students of Javanese Language Education, Teaching and Education Faculty, Sebelas Maret University Surakarta. It is important to note that Java Language Education programme, is one of the new courses established in 2011. For about six years since its founding, this program has produced many achievements and hold activities, both academic and performing arts. One of the routine art activities which is held annually is staging *kethoprak*. The inserted, created and empowered local wisdom values is intended to provide a wealth of Javanese cultural knowledge, except to create an exciting and dramatic performance.

2. Methods

The exploration values in Javanese arts and culture of *kethoprak* performances is the result of the research. To achieve research objectives, researchers need to apply the appropriate method. The method used in this research is qualitative descriptive with interactive analysis technique. In collecting data, the researchers use: (i) observation, (ii) interview, (iii) content analysis, and (iv) literature study. Observation technique is used to observe the performance of *kethoprak* show. Through direct observation researchers can find out how the characters' attitude and behavior in performing their role in stage and to find out how the setting of atmosphere and gesture shown by the characters, which is not contained in the text / script story. Some of them can reflect Javanese customs, for example: *bersila* (sitting cross-legged when facing the king, looking down when given advice by older people) and so on. In addition, interview and story content analysis also used to collect the data. The aim of content analysis is to find out the aspects of the story structure builders as well as the relevance of the story with the value of character education.

In analysing the data the researchers use interactive analysis technique. It is a continuously and gradually analysis, covering

analysis components, they are data reduction, data presentation as well as verification or withdrawal of conclusion (Miles and Huberman, 2007: 18). The three analysis components are made in the form of interaction on a reciprocal basis with the process of collecting data as a cycle.

3. Discussion

Based on the earlier explanation, the discussion section will explain about the exploration of the values contained in *kethoprak* performances, especially the value of Javanese arts and culture. Furthermore, these values are related with the values of character education that can be used as a means for growing a good attitude and behavior for the younger generation.

Kethoprak which is a representation of the community social life, especially the Javanese society, contains two main components, namely *kethoprak* story script and *kethoprak* performances. Like drama script structure, *kethoprak* script is composed of elements that build the story. Satoto (2012: 39) described the important elements that build the structure are theme, characterization, plot, setting, space aspect, time aspect, conflict and conversation (dialogue, monologue).

Besides *kethoprak* script, *kethoprak* staging also involves several supporting elements, such as: how to do the dialogue, movement, makeup, costum, voice and music, lighting, dance. All *kethoprak* components builders, storytelling, language and staging if observed and analyzed deeply, contain many values that can be related as a means of character education. Each of these components will be discussed as follows.

Values of Javanese Art and Culture on Drama Script Structure

The story of *kethoprak* raised many traditional themes, although at present *kethoprak* story has much been developed and the theme adapted the existing conditions in society. If referring to *kethoprak* story in Javanese society that has been exist from time to time commonly it has traditional theme. Nurgiyantoro (2012: 77) provided several statements related to traditional themes: (i) themes that contrast between truth and justice defeat evil, (ii) good act or evil act each will get the rewards (Java: *becik ketitik, ala ketara*) , (iii) or as the proverb, no pain no gain.

Traditional themes that are commonly raised in *kethoprak*, can provide a reflection on the Javanese life philosophy. Javanese in general still adhere to the principle “*Suradira jayaningrat, lebur dening pangastuti*”, which means how great evil power it will be defeated

by goodness and pure heart, even though the good comes from the weak. This has more or less influenced the mindset and worldview of Javanese. Likewise in the process of creating literary works such as *kethoprak*. The director will generally choses such a themes.

Based on the story theme, it can provide a concrete reflection of education value that can be modeled and exemplified in life, especially for the young generation. Human in their life will definitely face problems, opposition, and resistance. However, how powerful and tough a person is, if he does not have a good heart, he will be defeated by the good person, even though that person is not as powerful and as tough as his opponent. The lesson can provide character value learning, so that people always have to continue to do good, and choose to solve problems based on sincere and good intentions as well. That is because God is the most powerful among all. He will give reward those who have the good deeds, and reward punishment to those who do evil. The reward will surely come, either directly or undirectly in the future. This lesson can give a warning to humans, to always continue to do good in every aspects of his life.

In the beginning of the story, *kethoprak* often showed protagonists scenes who have experienced many conflicts, trials, failures, obstacles, even defeats but in the end of the story protagonists will have happy ending story. As *Kleting kuning* in *Andhe-Andhe Lumut* story. *Kleting kuning* is the stepdaughter of *Mbok Randha* (The Widow), who has kind heart and good behavior but she often gets the discrimination and unpleasant treatment of her mother, and her two half sisters. She often ordered to do household chores. One day *Andhe-Andhe Lumut* held a contest to find a wife, finally he chose *Kleting kuning* as his wife. During that time *Andhe-Andhe Lumut* did a lot of meditation. Although he had never met *Kleting kuning* directly, but he has been able to feel *Kleting kuning's* aura of kindness and sincerity which at that time she did not want to seduce by Yuyu Kangkang. So in the end they can live happily ever after.

Kethoprak stories generally showed protagonist who experienced trials, challenges and even suffering at the beginning of the story. However after experiencing tests, obstacles and bitterness, protagonist can raise his strength, so at the end of the story, he can gain victory or experience a fun event. This can be a way to learn character value, especially for the young generations, so that they always keep trying, never give up, struggle (*prihatin*) and do good in reaching hope and aspiration. They have to be

patient when experiencing failure. Failure will only make them tough and strong, because they can learn from the failure. Thus they will be able to achieve success in the end.

The characters attitude in every *kethoprak* scene is a representation of Javanese the real life condition. Good attitude and good behavior can be an example in life. *Kethoprak* stories often show the main character whose has simple life, full of struggle, and willing to do *laku prihatin*. *Laku prihatin* is like being alone to meditate, fasting, avoiding wasting time with the intention to pray to God. This can provide education character value related to religious attitudes. The young generation should be able to learn that religious attitudes, always obeying God orders' by praying to Him and avoiding God's prohibitions, such as hanging out with no reason, playing games without considering time, brawl, and other bad deeds.

The setting which relates to the atmosphere can show a description about life situation and customs of Javanese when the story occurs. The most notable educational value is described when a character is facing a king or a more respected person. When facing the king, they generally *bersila* (sit down with folded legs). They also bowed when given advice by older or more respected people. When wanting to interrupt the conversation, they will ask for permission and apologize first. At expressing refutation they use subtle intonations and tones. That description of situation can indicate the value of politeness in attitude, behavior and language. This should be used as an example for the young generations in behaving in society, especially to older people or people who more respected.

Kethoprak stories always serve message behind the conflict presented. The message is explicitly in the dialogue between the characters, the behavior of the characters, or implicitly in the whole story. Lisbijanto (2013: 37) stated that on every *kethoprak* performances, the performing artists have a mission to be delivered to the audience through dialogue or their acting. Explicitly message often inserted in a king's dialogue to his subordinates (*abdi*), or in parents dialogue with his children. That message is often seen in the main character's reactions in solving problem. As in *Cindelas*. The character of easily to forgive and wise is shown by the attitude of the empress and *Cindelas*. The empress and *Cindelas* easily to forgive the mistakes that the King has made. The good attitude shown by the empress brought peace and harmony to the family and the surrounding community. This can imply the education character values for the young generation, so in facing the life problems

they can think maturely, not based on revenge feelings or personal ego, it is better that they show their wisdom, humility and forgiveness.

Aspects of Language in Performing Kethoprak

Communication form in *kethoprak* performance consist of monologue and dialogue. The dialogue will follow the storyline, so that through the dialogue the audience will be able to understand the story. *Tembang* or Javanese song also used to deliver the message. That message delivery has Javanese high values of art and culture. It is also has education function.

There are two kinds of *tembang* which sung in *kethoprak* (i) ordinary speech derived from a dialogue or developed monologue which is sung, or (ii) quotations from Javanese songs that are still related to the theme of the story. The rhythm of *tembang* should be adjusted to the scene. Javanese think the delivery of dialogue with singing not only more gentle and has a deep impression, but it also can support the story setting. For example in a romance scene, the delivery of dialogue with *tembang* will be able to support a romantic and memorable atmosphere. Similarly, in conveying opinions or advice, the use of *tembang* feels more appropriate, full of meaning and can build the wise impression.

Every dialogue in *kethoprak* can include three kinds of Javanese languages namely *ngoko*, *krama* and *krama inggil*. Actor will do dialogue using Javanese language according to their status level in society and their role in the story. Javanese variety of *krama* and *krama inggil* used by speakers to honor their speaking partner. Speakers usually use *krama* when talking to a speaking partner who is older or more respected than the speaker. While *krama inggil* used for the most respected people, such as: King, Vice regent (*Patih*), and commander (*Panglima*). *Ngoko* is used by speakers to younger speaking partner, same age partner, peers, or someone who have a close relation with speaker. The king will use *ngoko* to his subordinates, while his soldiers will use *krama inggil* to the king. The children also use *krama inggil* to speak with their parents. As the dialogue between *Andhe-Andhe Lumut* and his mother bellow.

Ibu: "Putraku si *Andhe-Andhe Lumut*,
tumuruna ana putri kang unggah-
unggahi, putrine sing ayu rupane,
Kleting Abang iku kang dadi
asmane".

('My son *Andhe-Andhe Lumut*, go
down stairs please, here is a
princess who wants to marry you,

she is beautiful, her name *Kleting Abang*’).

Andhe-Andhe Lumut: “*Dhuh Ibu, kula boten purun, Dhuh Ibu, kula boten mudhun. Nadyan ayu sisane si Yuyu Kangkang*”.

(‘Oh Mom, I don’t want to, sorry mom, I won’t go there, Although she’s beautiful but she’s the ex of Yuyu Kangkang’).

This scene occurred when a mother asked her son, *Andhe-Andhe Lumut*, whether he willing to stop his meditation to receive a proposal from a princess named *Kleting Abang*. *Andhe-Andhe Lumut* refused it using *krama* to be more polite to her mother.

The use of Javanese language in accordance with *unggah-ungguh* or level based on age or position in the society can provide the education value for the young generation which can show respect and politeness especially to their parents. Attitudes like this should be imitated by the young generation of Java. When speaking to an older person, they should: (i) use Java language that suit with *unggah ungguh*, (ii) speak politely, (iii) No talk back (ing Javanese called *wangsulan*), (iv) If you do not agree with the opinion of your parents and want to say other opinions, you should be speak politely. Therefore the use of these language aspects can provide concrete examples of good language attitudes that can support the establishment of good character in everyday life.

Kethoprak not only use the variety of *ngoko*, *krama* and *krama inggil*, but also use the *rinengga* to beautify the utterance. *Rinengga* is a Javanese language that is modified so it can be beautiful and interesting, both in terms of pronunciation and structure without ignoring its substance. In *rinengga* often found the word of *Kawi* (Javanese-ancient), Javanese phrase, *paribasan* or proverbial, *wangsulan* or *parikan*. The aspects that build *rinengga* which used in *kethoprak* speech are the use of word from *Kawi*, *wangsulan*, *sanepa* and *parikan*. The use of word from *Kawi* (Javanese-ancient), for example, to refer to 'heart', is often expressed by the words 'driya', 'nala', 'tyas', 'manah', all synonymous with the word 'heart'. The use of this word can build an arkhaish (ancient) speech nuanced, so it can beautify the pronunciation. In conveying the purpose and the advice, it can be expressed by using *paribasan* or proverb to make it more polite and not insult the audiences feeling. For example: A king who gives advice to his people, to always keep their lust in order not to do harmful deeds is expressed through the proverb “*angkara gung ing angga, anggung gumulung*”,

which means that humans always have the lust and they always want to always win, and so forth. It is instinctive. However, if they can not control their lust, it will lead them do bad things both to their own self and others.

It can be said that the use of language in *kethoprak* always considers the aspects of Javanese cultural values besides the aesthetic aspects. The language used is adjusted to the context and the story setting. The use of language in *kethoprak* also provide knowledge about the politeness in the language, so it can support the embodiment of good character values, especially for the young generation in Java society.

4. Conclusion

There are many aspects of Javanese art values and Javanese culture values in the *kethoprak* performance which can be explored and used as a tool to support the establishing good character for the young generation. These aspects can be seen through the story builders structure, linguistic aspects, as well as in the *kethoprak* performance. Therefore, *kethoprak* performance should be maintained and brought closer to the community as a means of entertainment, communication and educational media, especially for the young generation and Java society.

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THE ROLE OF TEACHER IN BUILDING A GOOD SCHOOL IN THE BORDER AREAS OF NORTH BORNEO

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Abstract

Education's common problem in Indonesia is the uneven of quality education, especially in border areas. The quality of education, one of which can be seen from the quality of the graduates. Qualified graduates usually come from good schools. The school is said to be good if it fulfilled several aspects include: learning, assessment, classroom management, professional development, parent involvement and school management. This article aims to describe the role of the primary school teachers in building a good school in the border area of North Borneo. This article describes the role of a teacher in school that is either based on in-depth interviews with the principal and some teachers. Data analyzed by qualitative analysis. The data obtained through interviews, observation and documentation. Interviews conducted with principals and teachers. Observations made at the school and classroom environment. While the documents used to obtain data about the condition of the school include: school management, the physical condition of the school, the achievements of teachers, students and schools, learning tools. Results of the study concluded that the retrieved description of the role of teacher in school that is either appropriate conditions on the border of North Borneo.

Keywords: building, a good school, the border of North Borneo

1. Introduction

Education's common problem in Indonesia is the uneven of quality education, especially in border areas. It is influenced by several factors, including: teacher quality is not yet on par with the existing teachers in urban areas; the availability of the infrastructure of the school many of which are not yet adequate, constraints in accessing information and communication; school management has not been as good as in urban areas; geographic factors less support e.g. school locations that are difficult to reach; still limited educators who meet the qualifications; and others. The quality of education, one of which can be seen from the quality of the graduates. Qualified graduates usually comes from a good school.

The school basically is also an organization. Thus, schools can be said to be well in achieving the objectives that have been set. Usually the level of achievement was marked by achievements in the field of school graduates basic skills measured through terstandar achievement test (Frymier, et al, 1985, Sergiovanni, 1984). According to Edmons (1979), Brookover and Lezotte (1979) they has the assumption that the school does have a lot of

goals. But whatever the number, according to their school will not be said whether by students, parents, and other community, as long as the school is not successful in teaching basic skills.

A good school is actually not only seen from the basic skills possessed by students but more than that. If only to measure basic skills then no more school just as a machine printer

Postman and Weingartner (1979) argued that the school as an institution has a set of essential functions that should be owned by every school. Essential functions include: 1) time, 2) structuring activity to follow students, 3) definition of intelligence, intellectual abilities, accomplishments, and good behavior, 4) assessment, 5) separation of roles and responsibilities among teachers and students, 6) supervision and surveillance against students, and 7) accountability. In addition to essential functions, there are also referred to as the Convention, i.e. procedures that followed the school to meet the seven essential functions so that the essential functions really makes school was able to provide a valuable learning experience for students. An example is structuring which is the essential function of time first. Each school has a time when school starts and ends. The school also has a time when certain activities

carried out and the time is certainly different from one activity to another activity. Without setting the time we do not have a school. While the Convention is specific ways in the school to arrange for ten months of the year, six days a week, six hours a day, and 35 to 40 minutes in one hour lesson. Further the Postman and Weingartner convey an actual konvensilah object is an organizational change in the school. In their opinion a school is rated good in konvensinya are the actual increase the valuable learning experience for students. Finally this is all based on Postman and Weingartner describe based characteristics of a good school as follows:

1. Review of the structuring time, the school is said to be good if: a) the sequence of time a day at school it's not arbitrary (45 minutes for this, 45 minutes for it, and so on), but rather based on what needs to be done students; b) between one person and the other students are students at the school are not required to work on the same thing in the same time period; c) students not required solely to comply with the time in lessons, but mastering the skills; d) students are directed to organize their own time.
2. Review of the structuring activities, school can be good if: a) activities were tailored to the needs of individual students; b) between one person and another student students are not required to follow the same activity; c) school recognizes that teaching and learning almost not worth for the students in her less entangled in it; d) activity is the activity of students; e) activity is not limited to a building, but also includes all of the resources on the community; f) activities meet all differences of background and ability of students.
3. Review of the definition of intelligence, knowledge, or behavioural, schools can be said to be good if: a) the process of teaching and learning process more emphasis on dikelolanya inkuiri, problem solving, and research than memorisasi; b) their students away from the habit of accepting passively lessons; c) communicating the various skills training to students; d) to their students always stressed to use science in daily life instead of merely acquiring the science for the sake of science; band's style e) acknowledge the development of knowledge in various fields and try to consider it within the definition of knowledge; f) knowledge of oneself is part of the definition of knowledge.
4. Review of the evaluation, the school can be good when in the process of his: a) a greater emphasis on providing an inverse that drive;

b the humanistic approach) are used and the individual; c) covers aspects of the koprehensif; d) advance be made explicitly possible type se the desired behavior of the school; e) less used test terstandar; f) specialized in evaluating teachers and administrators use constructive procedures.

5. Review of the supervision and the supervision of students, the school can be good if: a) teachers and their students do collaborative efforts; b) students are given the opportunity to mensupervisi himself; c) number of students who tackled a supervisor is not much, so the problem can be handled personal.
6. Review of the role of the difference can be said either in school: a) all his teacher always develop ideas about learning communities where teachers functions more as a coordinator and facilitator; b) teaching a variety of roles in it not only played by the teacher; c) various roles of teaching is organized and then assigned in accordance with the capabilities of the teacher; d) students are considered not as an object on each activity, but rather encouraged to actively forming his own experience; e) students are not constantly placed in the competitive roles, but also collaborative.
7. In terms of accountability to the community, the school can say if casualties: a) a greater emphasis on participation rather than bureaucratic with paternalistic; b) not afraid performansinya accountable.
8. Review of accountability towards the future, the school can say be a good in casualties: a) has a concept of knowledge, attitudes, and skills oriented at the future; interpret the future responsibilities as responsibility to students, and then to social institutions.

From the explanation above, researchers intend to examine in depth the related role of the teacher in establishing a good school in SD N 006 Sebatik.

2. The Basic Outline Of The Theory

The Role

The term role in "great dictionary of Indonesian Language" has the meaning of showman (film), the humour in the game makyong, the expected behavior of a device owned by people who are domiciled in the community. Role according to Soekanto (2009:212-213) is the process of dynamic position (status). When a person is carrying out rights and obligations in accordance with his position, he exercised a role. The difference

between the position with the role was for the benefit of science. Both of them can not be split because one depends on the other and vice versa. Meanwhile, according to Merton (in 2007:67 Raho) says that the role is defined as a pattern of behavior that is expected from a person who occupied a particular status. A number of roles are known as device roles (role-sets). Thus the device role is the completeness of relations based on the roles that are owned by people because it occupied a special social status-status. Furthermore, according to Dougherty & Pritchard (in Bauer 2003:55) theory this role provides a conceptual framework in the study of behavior in the organization. They stated that the role was "involves patterns of product creation as opposed to a behavior or action".

According to Soekanto (2002:242) role is divided into three, namely the role of active, participatory role, and the role of the passive:

1. An active role is "the role given by the members of the group because of its position in the group as groups such as katifis, such as the Administrators group, officials, etc".
2. Participatory Role is "the role given by the members of the group contributed a very useful for the group itself".
3. Being a passive role is the "donation of the passive group members", whereby groups of restraint.

The Definition Of a Teacher

The teacher is a professional educator with the main task of educating, teaching, guiding, directing, train, assess, and evaluate learners in the early childhood education path of formal education, elementary education, and secondary education (Law No. 14 of 2005 about the teachers and professors). Professional is the work or activity undertaken by someone and being the life source of income requires expertise, finesse, or proficiency that meet certain quality standards or norms as well as the need of the education profession.

The Position, Function and Purpose of Teacher

The teacher had a position as professional personnel at the level of basic education, secondary education, and early childhood education on the formal education to be appointed in accordance with the legislation (Law No. 14 of article 2 paragraph 1 of 2005).

The position of teachers as professionals referred to in article 2 paragraph (1) serves to enhance the dignity and the role of teachers as agents of learning function to improve the quality of national education (Law No. 14 of article 4 in 2005).

The position of teachers and professors as professionals aiming to implement the national education system and realizing national educational goals, namely the development of potential learners in order to become a man of faith and piety to God Almighty, precious, healthy, have learned, accomplished, creative, independent, as well as being a citizen of a democratic and accountable (Law No. 14 article 6 in 2005).

The Meaning of a Good School

A good school according to Peter Robert (Headmaster of The King's School, Canterbury) was not merely educational opportunities, but more on the supportive environment to serve as a second home.

Characteristics of a Good School

According to Ramond I. Young, the characteristics of a good school is: 1) High expectations for every student; 2) Parent and Community support; 3) a rigorous curriculum and fair assessment, 4) Sufficient resources to help all students achieve; 5) Safe, healthy, and supportive learning environments; 6) Schools and classroom equipped for teaching and learning; 7) Qualified teachers in every classroom; 8) strong school leadership. Sedangkan menurut McGuire, karakteristik sekolah yang baik adalah: 1) students want to be there; 2) Highest expectation for the school, teachers, and students; 3) Dedicated teachers; 4) Effective Discipline; 5) There is a Variety of Instructional Techniques; 6) Individualized Instruction and Approaches to Students; 7) Leadership.

Previous Research Studies

Habel (2015) conducted research on the role of master class in building social behavior Grade V primary school in the village of Setarap Sub-district 005 Malinau Malinau Regency Downstream South obtained the results that the role of the teacher in establishing social behavior grade V State primary school in the village of Setarap Have 005 well-executed and provide benefits for the students classes in particular v. as for barrier in the role of the teacher is the limitations of teachers , the lack of cooperation of parents and teachers and the lack of facilities and infrastructure are lacking.

Uri Wahyuni (2014) conducted research on the role of Teachers in shaping the character of the students in SD N Jigudan Triharjo Lesson 2014/2015 Year Pandak, Bantul obtained the results that the role of teachers in shaping the character of the influence on students ' characters displayed students at SDN Jigudan; the values of character, formed by the students at the religious, namely Jigudan SDN honest, discipline,

responsibility, hard work, creative, independent, curiosity, an avid reader, tolerance, love of peace, democratic, communicative, valuing achievement, nationalism, love the motherland, social care, care for the environment, and integrity; supporting factors in shaping the character of the students is the teacher already understand correctly about the concept and application of character education, school facilities and infrastructure support in the process of learning and character education, and teachers in character education plays an active role while the penghambatnya factor is the learners who have the habits and family factors, environment factors of society who are less supportive.

3. Research Methods

The Type Of Research

Type of this research is descriptive research that illustrates the data obtained for what it is according canvassed problems. Descriptive research is research that is intended to investigate the circumstances, conditions or other things already mentioned that the results are presented in the form of research reports (Arikunto, 2010-12:3).

The Stages of Research

The stages in this study are: (1) Preliminary Studies, (2) the study of librarianship, (3) the study of the field, and (4) Data analysis

Location Research

This research was conducted to obtain an overview that is descriptive and profound about the role of the primary school teachers in building a good school in the border area of North Borneo in particular the in SD Negeri 006 Sebatik.

Informants and Objects of Research

The informant of the research is the principal and several teachers in the primary Country 006 Sebatik. While objects in this study are all the data and information relating to data obtained from the results of interviews and the examination of documents.

Sources and Research Data

Primary data in this study were obtained from the results of the interview against the principal and which will then be processed and described in the discussion in this research. While secondary data in this study is a document concerning the physical condition of the school, photos of teaching and learning activities and learning device

Research Instrument

The instruments used in this research is the examination sheet sheet of interviews and documents.

Techniques of Data Collection and Data analysis

Data collection techniques used are interviews, documentation and review the documentation. Data research results are analyzed using descriptive analysis techniques. This research uses of data analysis techniques belonging to Miles and Huberman, namely the reduction of data (data reduction), the presentation of data (data display), as well as the withdrawal of the conclusion (verification).

1. Data Reduction

Data obtained from the field are noted or recorded in mobile with voice recorder in the form of a descriptive narrative, namely the breakdown of the data acquired in primary school teacher Education Majors UBT is without any comment on the use of learning media researchers on five basic subjects (sd) in the form of small notes and transcripts of interviews.

2. Data Display

The data presented at this stage results in the field in the form of narrative, that the written description of the learning media use on five basic subjects (SD) with a purpose designed to combine the information arranged in the form of a convenient and easy to understand.

3. Withdrawal of Conclusions (verification)

The conclusions in the study is qualitative data that has been analyzed, described, and is meant in the form of words to mendiskripsikan the fact that there are in the field, or purport to answer questions research on objects that were previously still dimly lit or dark so that once researched became clear and further taken its essence. In drawing the conclusion has always done a review against the presentation of the data and notes in the field through the triangulation technique.

4. Discussion

Research is carried out in SD N 006 Sebatik, Nunukan Regency, North Kalimantan province. SD limit N 006 Sebatik middle is as follows:

1) North side bordering the residential population

2) The East is bordered by Palm

3) Borders the South side of banana garden

4) West borders the SMP 01 Sebatik Middle

SD N 006 Sebatik Middle have infrastructure that is still minimal. The number of students in elementary N 006 Sebatik Middle as much as 131 students consisting of 73 students are male and 58 female students. While the

number of teachers are CIVIL SERVANTS as 6 people, teachers and educational personnel honor as much as 8 people. As for the condition of the building in SD N 006 are: 1) the land area of 20,000 m², building 459 m², spacious yard 1,800 m²; 2) permanent building construction; 3) Status of ownership belongs to the local government.

The Role of The Teacher in Building a Good School in The Border Area of North Borneo (SD N 006 Sebatik, Nunukan Regency, Kalimantan Utara)

Based on the exposure can be found some of them namely research findings that teachers have an important role in establishing a good school because the teacher is the one who most determines success of educational purposes in addition to other factors that support the. The teachers roles such as: 1) gives motivation to students, 2) instill discipline to students, 3) being a role model, 4) foster the student's character, 5) fostering of students in writing, reading and arithmetic, 6) completes the necessary administration for preparation, 7) in collaboration with the teachers, the principal and the community. From the findings may imply that, teachers have a central role in determining good as bad an institution called the school.

5. Conclusion

The role of the teacher in establishing a good school occupies a central position in determining good schools as bad. Therefore the teacher should have the competence that support to run his profession i.e. mengembangkan potential learners in order to become a man of faith and piety to God Almighty, precious, healthy, have learned, accomplished, creative, independent, as well as being a citizen of a democratic and responsible.

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NUMBERED HEAD TOGETHER WITH REALISTIC MATHEMATIC APPROACH IN TEACHING MATHEMATIC VIEWED FROM ADVERSITY QUOTIENT

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Abstract

Recently, the teaching process which is conducted based on teacher center affect the students interaction in the class. It causes students become less interest to participate. That is why Numbered Head Together (NHT) is offered to overcome this situation. NHT, one of teaching model, is a variant of group discussion whose aim is giving a chance to the students to share their ideas related to the teacher's question. By using NHT in the class, a teacher can give a better understanding about the material which is given with the help of Realistic Mathematics Approach (RMA) which known for its real problem context. Meanwhile, the researcher assumes instead of selecting teaching model, Adversity Quotient (AQ) of student also influences students' achievement. The population is junior high school students grade VII in Surakarta, and the aim of the research is to investigate the effectiveness of NHT-RMA teaching model which is seen from AQ.

Key words: *numbered head together, realistic mathematic, teaching mathematic.*

1. Introduction

Education is an important thing for a nation, because quality education will create intelligent, productive, responsible and independent people. Along with the development of society, education in Indonesia faces many challenges related to the quality of education in Indonesia. There are several factors causing the low quality of Indonesian education. These factors are the high cost of education, the low quality of educational facilities and infrastructure, the learning process is less than optimal, and low student achievement.

Mathematics is a subject in which there is the ability to count, think logically, and think creatively. Mathematics is one of the most important subjects.

According to Kline [1] mathematics is a symbolic language and its main feature is the use of deductive reasoning but not to forget the inductive reasoning.

The reality of the field shows that there are still many students who consider mathematics as a difficult lesson and become a scourge in the national exam which impact on student achievement.

This can be seen in the indicators of achievement of learning outcomes which are relatively lower than other subjects. It can be seen from the results of the National Examination

of state junior high school Year 2016 in Surakarta with the number of participants 6214 with the acquisition value is shown in Table 1.

The table shows that the average score of UN mathematics in state junior high school in Surakarta year 2015/2016 is lowest of all, with a value of 55.60. So, it can be seen that the average value of mathematics gets last rank of all subjects.

Based on PAMER result of National Examination of State Junior High School in Surakarta City 2015 and 2016, it was found that the absorption of students in Surakarta Year 2015 of the ability to solve the problems related to the area and circumference of plane is 66.30% while in 2016 is 55.64%.

These results indicate that students in Surakarta have difficulties in working on math related to the area and circumference of plane.

Table 1 The average of National Examination score of state junior high school in Surakarta in academic year 2015/2016.

Score	Bahasa Indo.	English	Mathematics	Science
Average	81,04	62,81	55,60	62,07
The lowest	34,0	18,0	12,5	12,5
The highest	100,0	100,0	100,0	100,0

The difficulties of learning faced by junior high school students in Surakarta in solving problems related to plane area is influenced by internal and external factors. The internal factors are factors that come from within students, for example independence, self-esteem, learning motivation, confidence or logical intelligence. Meanwhile, the external factors are factors which are derived from outside students, such as learning environment, learning tools, teachers, curriculum, and teaching methods [2]. The factor that influences the success of learning mathematics is the use of approaches, learning models, and intelligence which is had by the students.

The use of the right approach will affect student achievement. One approach that can be used to motivate students to affect their interest in learning mathematics is the approach of Realistic Mathematics Education (RME). RME is a learning approach that combines the views of mathematics, how students learn mathematics, and how to teach math. In addition, research which is conducted by Uzel and Uzangor [7] states that learning with RME has better mathematics learning achievement than learning with traditional methods because it can stimulate students' positive attitude to learn mathematics. Thus it supports the assertion that RMA is well used in learning.

Teaching learning which use RME emphasizes the achievement of an active learner interaction pattern with an approach incorporating an understanding of concepts, the use of knowledge and math skills in everyday life. In addition, the selection of appropriate learning models will also have a positive impact on student achievement. A model of learning should be able to create a good interaction between teachers and students, so that it can be achieved learning objectives. The use of cooperative learning can improve student achievement and can develop intergroup relationships, acceptance of classmates having weaknesses in the academic field, and increased self-esteem [4]. Based on that opinion, the use of cooperative learning model with RME can be one alternative solution that can be applied in learning mathematics.

There are many cooperative learning models, including Numbered Head together (NHT). The NHT learning model is a variant of group discussions aimed at giving students an opportunity to share ideas and consider the answers to each question.

Beside factor selection of learning model that will be applied to students, the learning process will also be influenced by other factors

such as Adversity Quotient (AQ). AQ is an intelligence or ability to change or cultivate a problem or difficulty and make it a challenge that must be solved in order not to obstruct passion and achievement that want to be reached [5]. AQ is an assessment used to measure how a person's response in dealing with problems to be empowered becomes an opportunity. AQ can be used as an indicator for a person's mental viewing. So, the high and low one can show how a person can survive in the face of difficulty in the struggle until someone can come out as a winner in the end or backed up in the middle or even unwilling to accept the slightest challenge. So, AQ can be very influential to the students' achievement.

AQ is divided into several levels; climbers, campers, quitters. Climbers are a group of people who choose to continue to survive and struggle in the face of various kinds of things that will continue to hit both in the form of problems, challenges or other obstacles such as things that happen in everyday life. The group chooses to struggle regardless of their background and abilities, they will continue to try to get a solution. Campers are a group of people who already have the willingness to try dealing with the problem, but they choose to give up because they feel unable to continue the struggle. Quitters are a group of people who lack the willingness to accept the challenges of their lives.

AQ is concerned with the attitude student in understanding the mathematical concepts that affect student learning achievement of mathematics, especially in understanding the problem triangle and quadrilateral. Conditions in the field, there will be children who strive to understand and solve the problems that it faces regardless of the end result. But there will also be children who stop midway in solving the problems because they give up and feel unable to finish it. There are even children who immediately give up without making efforts in finding a solution of the questions. So, that AQ can affect student's learning achievement in understanding and solving the problem especially on plane. This is supported by the results of research Sudarman [6] who states that the potential AQ is required by the students who have difficulty in learning mathematics.

Based on the previous description, the researcher conducts a study by applying the NHT learning model on triangle and quadrilateral material with RMA in terms of AQ for students grade VII in Surakarta in the academic year 2016/2017.

2. Method

This research was conducted in state junior high school located in Surakarta with the research population is all students of class VII (seven) in Surakarta in the academic year 2016/2017 with sample of SMP Negeri 26 Surakarta.

The type of research used in this study was *quasi experimental* research because the researcher did not possible to control or manipulate all relevant variables except for several variables studied. This study aimed to provide treatment of samples, then researcher want to know the effects of the treatment. The intended treatment is a learning strategy using cooperative learning model type NHT-RME and direct learning model. While the instrument used to obtain data category AQ students was a questionnaire, and the instrument used to obtain student achievement data was tests.

The research design used in this research was 2x3 factorial design which is shown in Table 2.

Table 2. Research Plan

Teaching Model (a)	Adversity Quotient (b)		
	Climbers (b1)	Campers (b2)	Quitters (b3)
NHT-RMA (a1)	(ab)11	(ab)12	(ab)13
Direct (a2)	(ab)21	(ab)22	(ab)23

In this research, the data analysis which was used is two way anova with unequal cell. Before conducting variance analysis, a prerequisite test of variance analysis was conducted, the normality of the population used to find out the samples came from whether normal or not distribution populations and the homogeneity test of the population which was used to find out whether the sample came from a population having homogeneous variances.

1. Prerequisite Test

a. Normality Test

Normality test which is used in this research was *Lilifors* test with the steps as follows [3]:

1) Hypotheses

H_0 : sample comes from normal distribution population

H_1 : sample does not come from normal distribution population

2) Significant level : $\alpha = 5\%$

3) Statistics test : $L = \text{Max } |F(Z_i) - S(Z_i)|$

With the formula:

$$Z_i = \frac{X_i - \bar{X}}{s}; s = \sqrt{\frac{n(\sum X^2) - (\sum X)^2}{n(n-1)}}$$

$$F_{(Z_i)} = P(Z \leq Z_i)$$

$S(Z_i)$ = whole number proportion

$Z \leq Z_i$ toward Z_i

4) Critical area

$DK = \{L | L > L_{\alpha;n}\}$, with n is sample measurement

5) Result test

H_0 is accepted if L is in the outside of critical area

6) Conclusion

If H_0 is accepted, sample comes from normal distribution

b. Homogeneity test

Homogeneity test was done with *Bartlett* test with the steps as follows:

1) Hypotheses

H_0 : $\sigma_1^2 = \sigma_2^2 = \sigma_3^2 = \dots = \sigma_k^2$
(homogeneous population of variance)

H_1 : not all of variance are similar (nothomogeneous population of variance)

2) Significant level : $\alpha = 0.05$

3) Statistics test:

$$X^2 = \frac{2,303}{c} [f \cdot \log RKG - \sum f_j \cdot \log S_j^2]$$

with :

$$X^2 \sim X_{(k-1)}^2$$

k : number of population

f : degree of freedom for $RKG = N - k = \sum f_j$

f_j : degree of freedom for $S_j^2 = n_j - 1$, with $j: 1, 2, 3, \dots, k$;

N : number of all measurement

n_j : number of measurement for the sample of-j

$$c = 1 + \frac{1}{3(k-1)} \left(\sum \frac{1}{f_j} - \frac{1}{f} \right)$$

$$RKG = \frac{\sum SS_j}{\sum f_j}$$

$$SS_j = \sum X_j^2 - \frac{(\sum X_j)^2}{n_j} = (n_j - 1)S_j^2$$

$$S_j^2 = \frac{SS_j}{f_j}$$

4) Critical area:

$$DK = \{\chi^2 | \chi^2 > \chi_{\alpha;k-1}^2\}$$

5) Final test:

H_0 is rejected if $\chi_{obs}^2 \in DK$ of H_0 is accepted if $\chi_{obs}^2 \notin DK$.

2. Equilibrium Test

To determine whether the first experimental group, the second experimental group and the control class were in balance or not before giving treatment, an equilibrium test was conducted with a one-way variance analysis with the same unequal cell as follows:

1) Hypotheses

$H_0 : \mu_1 = \mu_2 = \mu_3$ (three of the population have similar average)

H_1 : at least there are two of average which are not equal

 2) Significant level: $\alpha = 0,05$

3) Computing

To simplify the calculation in this study, form is defined the amount as follows:

$$(1) = \frac{G^2}{N}; (2) = \sum_{i,j} X_{ij}^2; (3)$$

$$= \sum_j \frac{T_j^2}{n_j}$$

$$N = \sum_{j=1}^3 n_j = n_1 + n_2 +$$

n_3 = sum hole number data

$$G = \sum_{j=1}^3 T_j = T_1 + T_2 +$$

T_3 = sum of data; with T_j = sum of cell data of- j

$$\bar{X} = \frac{G}{N} SS_j = \sum_j X_j^2 - \frac{T_j^2}{n_j}$$

Sum of squares: $JKA = (3) - (1)$;

$JKG = (2) - (3)$; $JKT = (2) - (1)$

Degree of freedom: $dkA = k - 1$;

$dkB = N - k$; $dkT = N - 1$

Average of squares: $RKA =$

$$\frac{JKA}{dkA}; RKG = \frac{JKG}{dkG}$$

4) Statistics test which is used

$$F = \frac{RKA}{RKG}$$

5) Critical area

$$DK = \{F \mid F > F_{\alpha; k-1; N-k}\}$$

6) Final test

H_0 is rejected if $F_{obs} \in DK$, H_0 is accepted if $F_{obs} \notin DK$. which means if H_0 is rejected, the population have different average (unbalanced population), if H_0 is accepted, it means the population has equal average (balanced population).

3. Hypothesis Test of two-way variance analysis with unequal cells

a. Hypotheses

1) $H_{0A} : \alpha_i = 0$ for each $i = 1, 2, 3, .$

H_{1A} : at least there is an α_i which is not nol

2) $H_{0B} : \beta_j = 0$ for each $j = 1, 2, 3, .$

H_{1B} : at least there is a β_j which is not nol

3) $H_{0AB} : (\alpha\beta)_{ij} = 0$ for each $i = 1, 2, 3, \dots$ and $j = 1, 2, 3, .$

H_{1AB} : at least there is a

$(\alpha\beta)_{ij}$ which is not nol

b. Significant level $\alpha = 0,05$

c. Statistics test

a) For H_{0A} is $F_a = \frac{RKA}{RKG}$ which the value of the random variable having distribution F with the degrees of freedom $p - 1$ and $N - pq$.

b) For H_{0B} is $F_b = \frac{RKB}{RKG}$ which the value of the random variable having distribution F with the degrees of freedom $p - 1$ and $N - pq$.

c) For H_{0AB} is $F_{ab} = \frac{RKAB}{RKG}$ which the value of the random variable having distribution F with the degrees of freedom $p - 1$ and $N - pq$.

d. Critical area: $DK = \{F \mid F > F_{\alpha; (p-1)(q-1), N-pq}\}$

e. Final test: H_0 is rejected is F_{hitung} is located in critical area. The summary of anova can be seen at table 3.

4. Double Comparison Test

After the result of two ways variance analysis, double comparison test was conducted which consists:

- Post-anava test for comparison between rows
- Post anava test for comparison between columns
- Post anava test for comparison between cells

Table 3 Summary of Variance Analysis

Source s	JK	Dk	RK	Fhitung	Ftabel
Row (A)	JK A	$p - 1$	RK A	Fa	$F_{\alpha; p-1, N-pq}$
Colum (B)	JK B	$q - 1$	RK B	Fb	$F_{\alpha; q-1, N-pq}$
Interact ion (AB)	JK AB	$(p - 1)(q - 1)$	RK AB	Fab	$F_{\alpha; (p-1)(q-1), N}$
Error (G)	JK G	$N - pq$	RK G		
Total	JK T	$N - 1$			

3. Results

Prerequisite test

a. Normality test

The result of normality test from mathematics achievement test with Lilifors test were obtained statistic test as follows:

Table 4. Normality test

Normality Test	l_{obs}	$l_{0,05;n}$	Result	Conclusion
----------------	-----------	--------------	--------	------------

1	Initial ability of control class	0,119	0,161	Ho is accepted	normal
2	Initial ability of experimental class	0,0744	0,159	Ho is accepted	Normal
3	Achievement test of control class	0,0827	0,161	Ho is accepted	Normal
4	Achievement test of experimental class	0,0412	0,159	Ho is accepted	normal

b. Uji homogenitas

The results of homogeneity test using Bartlett are as follows:

Table 5. Homogeneity test

	Homogeneity test	χ^2_{obs}	$\chi^2_{0,05;k-}$	Result	Conclusion
1	Initial ability	1,81882	3,841	Ho is accepted	Homogen
2	Achievement test	2,1191	5,991	Ho is accepted	Homogen
3	AQ	1,217	3,841	Ho is accepted	Homogen

c. Equilibrium Test

The result of equilibrium test for initial students' achievement is as follows:

$$F_{obs} = \frac{RKA}{RKG} = 1,02744$$

$$F_{tabel} = 4,00$$

$$DK = \{F | F_{obs} > F_{tabel}\}$$

$$\text{Because } F_{obs} = 1,02744 < F_{tabel} = 4,00$$

So, the result of equilibrium test is Ho is accepted, then it can be concluded that the average of both of population is equal. It means that the students' achievement of the two groups in a balanced condition.

The analysis of two-way anova with unequal cells

In order to know whether there are differences in students' learning achievement with NHT model and directly, the differences of students' learning achievement depend on category of students' AQ, and whether there is interaction between teaching model used and student's AQ toward learning mathematics; thus, the result of two ways variance analysis was shown as follows:

Table 6. The summary of two way variance analysis

Sumber	JK	dk	RK	Fobs
--------	----	----	----	------

Teaching Model	69221,87	1	69221,87	976,551
AQ	80064,27	2	40032,14	564,76
Interaction	30983,7	2	15491,5	218,55
Error	3898,604	55	70,884	
Total	184168,4	60		

With each critical area:

1. Critical area for F_a , $DK = \{F > F_{0,05;1;55}\} = 4,00$.
2. Critical area for F_b , $DK = \{F > F_{0,05;2;55}\} = 3,15$.
3. Critical area for F_c , $DK = \{F > F_{0,05;2;55}\} = 3,15$.

As a result, it was found that the three hypotheses were rejected. It can be conclude that there were differences between mathematics achievement between students who learned with NHT-RMA model and directly. It also was found that there were significant differences on students' achievement at each AQ, and interaction between teaching model and each category students' AQ.

Double comparison test between cells at same row

The result of double comparison test between cells at the same rows as follows:

Table 7. The summary of double comparison between cells at same row

Ho	$(x_{ij} - x_{ik})^2$	$\frac{1}{n_{ij}} - \frac{1}{n_{ik}}$	F_{obs}
$\mu_{11} = \mu_{12}$	290,3616	0,476	8,61
$\mu_{11} = \mu_{13}$	8204,7364	0,383	302,22
$\mu_{12} = \mu_{13}$	5408,1316	0,193	395,31
$\mu_{21} = \mu_{22}$	1500,919	0,242	87,49
$\mu_{21} = \mu_{23}$	12441,551	0,542	323,84
$\mu_{22} = \mu_{23}$	5299,84	0,7	106,811

It was found that all of hypotheses are rejected, so each category of students' AQ resulted different achievement in both models.

4. Discussion

Based on the study of theory and supported by the results of research, it can be concluded that:

- a. The use of NHT learning model with RMA approach gives a better learning achievement of mathematics than direct learning model..
- b. In the NHT learning model with the RMA approach, students with high AQ have

better mathematics learning achievement than students with moderate or low AQ, and students with moderate AQ have better mathematics learning achievement than students with low AQ.

- c. In direct learning model, students with high AQ have better mathematics learning achievement than students with moderate or low AQ, and students with moderate AQ have better mathematics learning achievement than students with low AQ.

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ANALYSIS OF CODE SWITCHING AND CODE MIXING IN DEWI LESTARI'S SUPERNOVA² : AKAR

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Abstract

Sociolinguistics studies more in linguistic phenomenon happens in the society where people start to interact in a community. As the result, code mixing and code switching are widespread phenomena in bi- or multilingual communities as the proof of language existence in communication. This study investigates the occurrences of code mixing and code switching which substantively appear in Dewi Lestari's *Supernova² : Akar*. Totally 169 cases of conversation produced by the characters were found and analyzed to identify: 1). How six types of code switching and code mixing proposed by Mahootian and Muysken's Theories take a part in Dewi Lestari's *Supernova² : Akar*; 2). The proportions (percentage) of code switching and code mixing produced in the Novel of *Supernova² : Akar*. The writer used discourse analysis qualitative method to analyze the data. There are some steps of analyzing the data by using taking note. They are reading and understanding, choosing, classifying, describing, counting the proportions, then drawing the conclusion of code switching and code mixing which is produced by characters in *Supernova² : Akar* by Dewi Lestari novel comprised of totally 209 pages. The findings show nine languages were mixed in this novel both in code mixing and code switching.

Keywords: Code Switching, Code Mixing, *Supernova² : Akar*.

1. Introduction

Sociolinguistics studies more in linguistic phenomenon that happens in the society where people start to interact in a community. Further, Coulmas [1] claims that clearly, sociolinguistic studies in multilingual communities must include "code-switching," "code mixing," and the use of "mixed codes". Those twin sociolinguistic phenomena, code switching and code mixing, are also engaged as a fair couple in the linguistic term and normally occur in the bilingual or multilingual speech community as the proof of language existence in communication as proposed by Alcañal [2] that code-switching and code-mixing as communicative strategies are studied mainly in connection with the bi- and multilingualism. And those two linguistic phenomena substantively appear in second sequel of *Supernova* by Dewi Lestari² which published in 2002 under title *Supernova² : Akar*.

This case study examines the occurrences of code mixing and code switching produced by characters in *Supernova² : Akar* by Dewi Lestari. The main body of the paper is divided

into five sections. The first contains the introduction of study. Second is the definition of concepts. It is in the third that the previous investigations of scholars on code-switching and code-mixing are examined. The entire procedure for the current research constitutes the fourth section, while the fifth contains the conclusion.

2. Methodology

The writer used discourse analysis qualitative method since the result of the data analyzed according to Denzin and Lincoln [3] is generally broader in what it studies, utilizing pretty much any naturally occurring text, including (existing) written texts, lectures, documents, and so forth. There are some steps of analyzing the data by using taking note. They are reading and understanding, choosing, classifying, describing, counting the proportions, then drawing the conclusion of code switching and code mixing which is produced by characters in *Supernova² : Akar* by Dewi Lestari novel comprised of totally 209 pages.

3. Results

Definition of Concept

In this section, the concepts to be defined are multilingualism, code switching and code mixing.

1. Multilingualism

Several scholars have attempted to define multilingualism. Among them are Holmes [4], Thomason [5] and Wardaugh [6]. For instance, Bhatia & Ritchie [7] specifically proposed that multilingual is respectively refer to knowledge and the use of three or more languages. Coulmas [3] further noticed there will be linguistic consequences toward multilingualism: 1). Lexical transfers and their integration; 2). Grammatical transference and grammatical change; and 3). Code Switching.

2. Code Switching

People, then are usually required to select a particular code, a system used for communication between two or more parties, even within sometimes very short utterances and thereby create or mix codes in a process known as code-switching, Wardhaugh [6]. The term, which also appears as 'codeswitching' and 'code-switching' in the literature, broadly refers to the systematic use of two or more languages or varieties of the same language during oral or written discourse, Mahootian [5].

Further, Mahootian [8] divided code switching into three types according to the conversations occur, as follows:

a. Inter-sentential switching

This is the highest on the scale are inter-sentential switches, switching occurs between conversation from sentence to sentence or clause. This type combines the grammar of each language. The speaker knows how these two languages interact and, thus, is able to avoid ungrammatical utterances. Excerpt (1) represents example of inter-sentential switching.

(1) A: The picture looks so cool.

B: Which picture?

A: The one you have in your messenger.

B: Ah...Ya, saya suka sekali.

(Ah...Yes, I liked it a lot.)

In excerpt (1), show participant B interacted in English during most of the conversation and suddenly switched into Indonesian language grammatically.

b. Intra-sentential switching

Switches within a clause involving a phrase, a single word or across morpheme boundaries. Hence, the switched units are larger

segments. Excerpt (2) represents example of intra-sentential switching.

(2) Dia memanggil saya just to say hi!

In this case, participant uses the Indonesian sentence as the first sentence, but when it comes to finding a sentence to translate "hanya untuk berkata hai" participant embedded English to switch the language at the rest of sentence.

c. Tag switch

Tag switching refers to a mix involving an utterance and or interjection (or tag). It is at the bottom of the scale. These include interjections, fillers, tags and idiomatic expressions. Tags are isolated words or phrases which are not related syntactically to the rest of the utterance. The occurrence of a tag does not break any grammatical rule either. Excerpt (3) represents example of tag switch.

(3) Uuumh I mean, kakakmu yang di Jakarta.

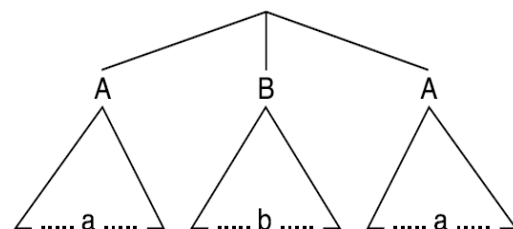
In this case, participant involves insertion of tag (in English) before delivering Indonesian sentence. This tag does not break any rules of grammatical.

3. Code Mixing

Code mixing also called intra-sentential code switching or intra-sentential code-alternation occurs when speakers use two or more languages below clause level within one social situation, Cardenas-Claros & Isharyanti [9]. Additionally, Muysken [10] defines code mixing into three types, consist of:

a. Insertion

Mixing occurs in the term of material (lexical items or entire constituents) from one language into structure from the other language. Figure 1 illustrates a graphic representation of insertion.



Muysken [10]

Figure 1 scheme of insertion code mixing

In the diagram "a" represents lexical items of the first language and "b" stands for the lexical item of the second language that has been inserted in the utterance by the speaker. Instances of this category of code mixing found

in the data can be seen in excerpts (4). Excerpt (4) occurs when an Indonesian speaking participant discusses a photo of Blackberry Messenger recently updated at the afternoon, he finally embedded English utterance.

(4) A: Saya comment foto profilmu yang dipasang

a b a

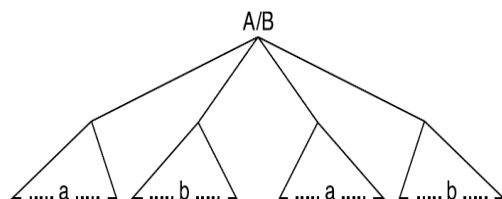
tadi siang itu.

(I commented on your profile picture which was posted this afternoon)

On this case, the speaker inserted English utterance 'comment' (as b) in the middle of sentence which the utterances 'saya' clearly related to utterances 'foto profilmu yang dipasang tadi siang itu'.

b. Alternation

Mixing occurs when structures of two languages are alternated indistinctively both at the grammatical and lexical level. This definition is illustrated in Figure 2.



Muysken [10]

Figure 2 scheme of alternation code mixing

In the diagram, A & B represent structures of the two languages that reflect the alternation that takes places in the utterances produced by the speakers. In a brief, a constituent from language A (with word from the same language) is followed by a constituent from the language B (with word from that language). The language of the constituent dominating A and B is unspecified. Instances of this category of code mixing found in the data can be seen in excerpts (5). Excerpt (5) occurs when an Indonesian speaking participant discusses about Monopoly game and invited his friend to play.

(5) A: The game has been started, mari bermain!

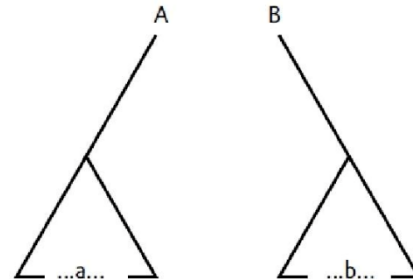
a b

(The game has been started, let's go and play)

In this case, he uses the Indonesian sentence as the first sentence, but when it comes to finding a sentence to translate "mari beranjak dan bermain" he switches into English at the rest of sentence.

c. Congruent Lexicalization

Mixing occurs on situation where two languages share grammatical structures which can be filled lexically with elements from either language. This definition is illustrated in Figure



Muysken [10]

Figure 3 scheme of congruent lexicalization code mixing.

Excerpt (6) is the example of congruent lexicalization. It occurs when the participant try to confirm the picture that has been sent by him.

(6) A: Tadi saya send picture. Sudah di accept?

a b a b

(I just sent you a picture. Have you accepted?)

Excerpt (6) consists of two languages (Indonesian Language and English) spoken in Indonesian grammatical.

Previous Study

Also, language experts across the globe have investigated in their experiments the causes, functions, characteristics and effects of code-switching and code mixing. One them, for instance is Redouane [11] "Codeswitching and Codemixing of Bilingual Moroccan Arabic-French Speakers in Canada". He found the data generated about 249 switches (154 switches in the formal setting and 95 switches in the two phone conversations). Cárdenas-Claros and Isharyanti [9] then studied on Code switching and code mixing in internet chatting: between 'yes', 'ya', and 'si' a case study. They found the data which the participants are participants in this study were 12 male participants. Regarding code mixing, both Indonesian and Spanish participants used more insertion than alternation or congruent lexicalization. In fact, the number of insertion occurrences is significantly higher than the two other types, 83% and 92% respectively.

4. Discussion

The findings show there are nine languages existed formally or informally. They are Indonesian language, Spanish, English, Malay, Thai, French, Pali language, Mandarin, and Vietnamese, which make Indonesian language as the major language and English as the second language among other languages.

This condition occurs on totally 169 cases in the Supernova²: Akar by Dewi Lestari consisted of 213 of total switching. The intensity rating of code switching or inter-sentential switching is higher than code mixing or intra-sentential switching. It is found that inter-sentential switching is done for 127 times and intra-sentential switching is done for 73 times while tag switch gets lowest for 13 times. It means that the characters often use inter-sentential switching than intra-sentential switching and tag switch.

The percentage shows inter-sentential switching or code switching reaches 59.62% of total code switching. Intra-sentential switching or code mixing reaches 34.28% of total code switching. Tag switching gets lowest, only 6.10% of total code switching. In the case of intra-sentential switching, the highest rating comes to word alternation code mixing that is done for 44 times, the lowest rating comes to congruent lexicalization which is done only for 5 times, and the average goes to insertion of code mixing which is done for 24 times. The percentage has proven that alternation code mixing reaches 60.27% from total code mixing. Insertion of code mixing reaches 32.88% of total code mixing. Then, congruent lexicalization reaches only 6.85% of total code mixing.

5. Conclusion

After gaining the analysis, the findings show there are nine languages existed formally or informally. This condition occurs on totally 169 cases in the Supernova²: Akar by Dewi Lestari. The intensity rating of code switching or inter-sentential switching is 127 times or 59.62% of total code switching. Intra-sentential switching is done for 73 times or 34.28% of total code switching. Tag switching gets 13 times or only 6.10% of total code switching. While in case of intra-sentential switching or code mixing, the highest rating comes to word alternation that is done for 44 times or 60.27% from total code mixing, and the average goes to

insertion of code mixing which is done for 24 times or 32.88% of total code mixing. Then, congruent lexicalization is done only for 5 times or 6.85% of total code mixing.

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LEARNING MEDIA INFLUENCE OF ACCOUNTING SONGS DEBIT - CREDIT SUBJECTS ECONOMICS ON LEARNING ACHIEVEMENT

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Abstrac

The rules of debit credit is the basis of accounting subjects. Reviews these rules must be understood by the students to work on the problems - a matter of accounting. Empirical experience of students is difficult, to understand about the rules of discharge, even difficult to memorized. The use of music in the form of "song" as a media of learning in understanding credit debit rules. This study aims to Determine the influence of media on learning outcomes songs in the sub-chapter of the rules of credit discharge. The method used is the which is music as a media of learning in the classroom and to apply it in solving problems. This study is a Quasi-experimental that uses the experimental class and the control class. Experimental class that uses the song as a learning media Reached 86% of students KKM, whereas only 65% control class. Classes that use song as a media of learning gives better results than not using the song. Music and song can the make the students relax and ready to accept the subject matter Easily so it can be stored in memory longtherm students.

Keywords: *Songs, media of learning, debit credit rules.*

1. Introduction

The learning result is determined by the success or failure of students to absorb learning undertaken by teachers. One of the educational goals effectively improve student learning outcomes in cognitive and affective (Tran, 2013). For more than two decades the question of how best to improve learning achievement in schools has gained increased (Greenwald, Hedges, and Laine, 1996) a good learning process menghasilkan satisfactory academic results. One of the factors that affect learning outcomes is the instructional media (Al-rahmi, Othman, and Moses, 2014) (Matnuh & Triani, 2014) (Tahar, 2016) (Anjarwati, Winarno, & Churiyah, 2016) (Nanda, Vena, Wiyasa, & Suniasih, 2016). A study will work well if the process is running fun.

Instructional media in the learning process is used to convey the message / material in order to achieve the intended learning objectives. Media in the learning process has two roles: first, the media as a tool in the learning process, the media is used to describe materials that are easy to understand students so that learning objectives able to be achieved. Second, the media as a learning resource as a source of material used in the learning process.

The use of the song in instructional media will certainly have a positive impact on the learning process. That's because the song is one way to stimulate the mind, so that students can accept the subject matter well. In addition to stimulating the mind, the songs also can improve concentration, memory, improve cognitive, physiological, and emotional intelligence. Songs affects the feelings of students will affect the teaching and learning process. The song is not necessarily always there so that the learning process can take place but the track can make the learning process more fun and not boring. The songs in this learning is one of the alternatives to be motivating to students in the learning process. Through song, the atmosphere becomes more fun learning, and students are more motivated to be active in the learning process. With media student song could be given the material provided by the teacher.

A media is a communication channel, is derived from the Latin word meaning "between". This term refers to anything that carries information between the source and the receiver. The definition of media focus on the use of technology plus the concept and context (Dewdney & Ride in 2006, flew in 2004, Heinich, 1996). Media is a means for the transmission or delivery of messages, and in the

perspective of the teaching-learning content delivery to students, to achieve effective instruction. (Naz & Akbar, 2010)

Media for teaching and learning process provides tools to engage students in the learning process. This greatly increases the effectiveness of communication. If designed properly, skillfully produced and effectively used has a major influence on the teaching and learning for generating impact: saving time, increasing interest, hold the attention, clarify ideas, concepts Strengthening (Naz & Akbar, 2010). According to Arif S. Sadirman (1984) argues that "the media is all the physical tools that can present the message and stimulate students to learn as Film, books, and tapes (Arief S Sadiman, 2012). Instructional media in the learning process is used to convey the message / material in order to achieve the intended learning objectives. In media learning plays an important role, as well as teaching methods. *Peraanan instructional media* such as 1). The media as a tool in the learning process, the media is used to describe materials that are easy to understand students so that learning objectives able to be achieved. 2). Media as a learning resource as a source of material used in the learning process.

The different authors (Borich 2002, Brown, Lewis, Harcleroad 1998, Kemp, 1998, Mehra, 1992, Chandra, 1989, McArtney, 1973) provides a classification of media in different ways on the basis of the classification is a grouping of public / media types can be made as the print media, graphic media, photography, audio media, television / video, computers (Naz & Akbar, 2010). Gagne and Briggs (1979) explained that the learning media is a tool that is physically used to convey the contents of the subject matter, which consists of books, modules, text programmatically, tape recorders, cassettes, video camera, video recorder, films, slides, photographs, images, chart, television, computers, and so on. Furthermore Arsyad (2011) explained that if the media were carrying messages or information aimed at containing instructional or teaching purposes, then the media is called a media of learning. Thus, it can be concluded that the learning media is physical tools that are used in conveying of information, namely in the form of learning materials to students.

Music is the expression of thoughts and feelings are unique, music, children learn about responsibility, team and individual efforts: quality is highly appreciated in business and all levels of society. Music developing a positive self-concept, self-expression, self-discipline and social skills. (McBurnie, 2002) results showed

that the students were motivated to participate and become more engaged in classroom activities when the songs used in the classroom. (Aguirre, Bustinza, & Garvich, 2016)

Conveys a song in accounting subjects allow them to open his thoughts on topics in which they might not have thought of. A study at Yale, published in the *Journal of Experimental Psychology*, notes that "the reduction of anxiety is positively correlated with learning" (Crowley & Kramer, 2013, track 1 in Phillips & Crowley, 2012). In a related experiment, anxiety and performance is measured in a learning situation that shows a lower propensity performance-anxiety assisted more often than high-anxiety, where the music can be effectively introduced into the classroom environment to reduce anxiety. One example of enterprising subjects of accounting is to create their own songs that help them learn (Crowley & Kramer, 2013, the track 1 in Phillips & Crowley, 2012).

When teachers and students are accustomed to using music and songs in the classroom, it can be an incredible way for them to achieve success in learning. This will happen if the learning conditions in the classroom centered on students and teachers become facilitators for students. Creative teacher will create a learning very *menyenang* for siswa. Sehingga purpose of learning to be achieved simultaneously. According Molinsky (2000) in his research has shown that music can enhance memory, improve concentration, cause to make learning fun, remove stress, increase a sense of community to the group, improve motivation (Farmand1 & Pourgharib2, 2013).

Willis (1994) states, to develop a lesson plan around a song that could be a way to teach grammar, phonetics, culture, geography, etc., in which students can practice the five skills, if we can use a song with enough endurance to remain in the mind long enough for students to experience success with certain language structure. (Farmand1 & Pourgharib2, 2013). Suharto (Wardah, 2005: 37) revealed that the song is a means of information and education for the state and for society. As a means of information, the song as a means of delivery expression of the heart or a poet expression of feelings to the listener. As an educational tool tracks can be used as a media of learning in school because the song is one form of art. The song is the work that is aesthetically significant, meaningful not just something that is emptied of all meaning. Therefore, before reviewing other aspects need first to be studied song as a meaningful structure and aesthetic value. The creation of a song can give pleasure also hope for

the audience to understand the meaning contained in the track which is a communication fabric.

Gustiani (2006: 30) defines the song as a literary rhythmic variety in talking, singing, reading, and so on. Songs included in audio media because the song is or something related to the sense of hearing. Physiologically, the hearing is a process of sound waves enter through the outer ear and on to the eardrum, and then converted into mechanical vibrations in the middle ear, then turned into nerve impulses, and transmitted to the brain. The song is a rhythmic noise variance (the talking, singing, reading, and so on); song; variety of sounds; and behavior (KBBI: 2008: 771).

According to Brewster et al (2002: 162) the song is affective / psychological resources. Besides fun, the songs are also able to motivate students *sekakigus* foster a positive attitude towards learning. Song is also a cognitive resource. Songs help improve memory, concentration also coordination. The song can be a culture of resource and social resource.

According to Schoepp (2008), the song became an integral part of the experience of human language. Flattum (2008) adds *bahwalagu* is a combination of melody and lyrics with harmony, rhythm or bits. Songs usually have a structure in the form of repetitions verse and chorus. The song creations are meant in this study are songs whose lyrics adapted to the rhythm of the subject matter taken from popular songs. Furthermore, Shtakser (2012) explains that music and song can create a good learning atmosphere in the classroom.

Media track is a tool that uses magnetic tape cassettes or compact disk using only produce audio without images. Tape and compact disc should be played using a cassette player or CD audio. Gustiani (2006: 32) The advantages of this media is the first to be played repeatedly according to the needs of students, both songs can be removed and reused, the three were able to develop the imagination of students, four very effective for language learning, fifth *penggandaann* program is very easy so that it can be given to each of the students. The weakness of this media is first its range is limited and the cost is relatively more expensive duplication tool. Therefore, if there are students who need it, then have to spend to buy a tape or CD of the song as one of the tools in the information and spark of feeling very loved many people, including young children. The song is included into learning media audio by Hamalik (1986: 50) can be used as an alternative media of learning.

The rules of debit credit is the basis of accounting subjects, these rules must be understood by the students to work on the problems of accounting. Empirical experience of students is difficult to understand the rules of debit, even difficult memorized, therefore the author would like to discuss about the use of the song as a media of learning in understanding credit debit rules.

In this study, the audio track media are used as a media of learning. That is, in the learning process, the media in the form of song lyrics played to the students to use as a learning tool. The purpose of this study is to see whether or not the media's influence on student learning outcomes song on credit debit rules pad material Kela XI.IPS student at SMAN 1 Bunut Kab.Pelalawan Riau.

2. Methodology

The research is a quantitative study using a quasi-experimental method / quasi experiment (Sugiyono, 2012). It said the results of measurements of quantitative research because many are required to use numbers, ranging from data collection, interpretation of the data, as well as the appearance of the results (Arikunto, 2010).

A quasi-experimental method used for this research aims to control or control any symptoms that appear under certain conditions, so that can know the causal relationship of symptoms. The research design is "design of the control group did *equifalen (Pretest-Posttest Nonequivalent Control Group Design)*". This study was conducted to determine whether or not the media's influence on learning outcomes in the form of song concept mastery on the material Debit-Credit rules. Indicators assessing conceptual understanding of the rules of Debit - credit. In other words, the test results of students rated accordingly. The population of this research is all class student XI.IPS SMA N 1 Bunut kab.Pelalawan Riau totaling 63 students. The sampling technique is simple random sampling. The study sample consisted of two groups: the experimental group and the control group. Class XI. IPS 1 consisting of 22 students as an experimental class and class XI.IPS 2 consisting of 20 students as the control class. Thus, the assessment is carried out to 22 students in class and 20 students XI.IPS.1 XI.IPS.2 class.

The main data in this study is the result of the test rules of debit-credit. Data obtained from tests given at the end of the sample. Data were analyzed through the following steps. First change the score value. Second, classifying the

final test results. Third determine the arithmetic mean of students and interpreted by KKM. Empat, comparing the experimental group and the control group using t-test to see how that happened. The fifth summing up the results of research and discussion.

3. Results

Data obtained dangan conducted two tests both in class and in the class experiment control. The tests conducted there was the pre-test and post-test. Pre-test was conducted to see the initial capabilities of the students, like any good classroom control experimental class. Pre tests conducted on the experimental class and control class showed many students who do not understand the concept of rules debit - credit, seen many students who have not reached the KKM is equal to 75. It can be seen in Table 1

Tabel.1

Results Pretest Rules Debit - Credit

Experiment class

class Experiment (XI.IPS.1)			class Control (XI.IPS.2)		
	F	%		F	%
Completed	6	27	Completed	4	20
Not Completed	16	73	Not Completed	16	80
Average Value	45		Average Value	42	

Source: Results processed pretest

In table 1, there are 6 student (27%) of students XI. IPS.1 (experimental class) were completed, 16 (73%) did not complete. While in class XI. IPS.2 (control group only 4 (20%) of students who reached KKM, 19 uncompleted. Average value achieved for the experimental classrooms is 45, and the control class is 42. The rules of debit - credit must be mastered by the student in order to follow the stages of learning more accounting services company. in the experimental class used media songs that explain the rules of debit, while the control class using conventional media.

After the learning process in the 2 x 45 minutes then do post-test, the results obtained are shown in Table 2:

Table 2

Results of post-test rules Credit Debit-

Class Experiment(XI.IPS.1)			Class Control(XI.IPS.2)		
	F	%		F	%
Completed	19	86	Completed	13	65
Not Completed	3	14	Not Completed	7	35
Average Value	82		Average Value	74	

Source: Post test processed.

Table 2 describes the changes that occur after learning about credit debit rules. In the experimental class using the song as a media, 19 students (86%) managed to achieve completed and 3 students (14%) have not yet reached completeness, average value is 86 higher than KKM (75) with the highest score 100 and the lowest 55. Classes control using conventional media 13 students (65%) achieve completed and 7 students (35%) have not yet reached completeness, the average value is equal to the KKM is 75 with the highest score 90 and lowest 45.

Table 2 shows the experimental class students who use the media songs on the material debit-credit rules more likely to achieve mastery over the KKM. The average value obtained by the experimental class is also better than the control class. The average value of the experimental class is 82 while the control class has an average of 74 which is still below the KKM. This shows the song media can help students to better understand the rules of debit.

Normality test used to determine whether the data obtained from each of the variables normal distribution or not. Calculation test for normality using the Kolmogorov-Smirnov formula with significance level of 5%. The entire process of calculation performed with SPSS version 20 for Windows. Normality test was conducted on the post-test scores of students in the material debit rules, either the experimental group or the control group. The criteria used is if the price $p > 0.05$ then the frequency distribution of normal, otherwise if the price of $p < 0.05$, the frequency distribution is not normal. The results show that the value of the normality of the experimental class and control class by using the formula obtained by Kolmogorov-Smirnov normality experimental class of 0.973 and 0,862 control class normality. From these data it can be seen that the distribution of the data obtained Sig greater than 0.05 is the value of alpha eksperiment 0,3 class and control class 0.448. This means the data distribution post test in experimental and control groups of normal, can be used for parametric statistical tests.

Homogeneity test is used to determine whether the samples taken had the same variant, or do not show any significant differences from each other. Homogeneity test in this research use levene test test. The criteria used are from research data which said homogeneous levene test if the result is greater than alpha of 0.05. Result that the value Levene in the post test experimental group-control 0.111 with Sig 0.747. From these data it can be seen that the

distribution of the data obtained Sig greater than 0.05 alpha value.

Hypothesis testing is done after all the data collected from the research results. The purpose of the Paired t-test to test whether the use of instructional media shaped track has a positive impact on student learning outcomes XI.IPS class in SMA N 1 Bunut Kab. Pelalawan Riau. Technically, the calculation process performed with SPSS version 20 for Windows. The hypothesis in this study are:

Ho: The use of instructional media shaped track has not had a better effect on learning outcomes XI.IPS graders in SMA N 1 Bunut Kab. Pelalawan Riau than using conventional media

Ha: The use of instructional media shaped track has had more influence on student learning outcomes XI.IPS class in SMA N 1 Bunut Kab. Pelalawan Riau than using conventional media

Analysis of T-test results showed that the t-count of post test experimental group 2,172 and 1,729 t table. From these data it looks t count > t table in such Ha accepted and Ho rejected. This means that the use of instructional media shaped track or song has a better effect on the results of student learning outcomes XI.IPS class in SMA N 1 Bunut Kab. Pelalawan Riau compared to conventional media.

4. Discussion

Learning media-shaped track in this study is proven to improve student understanding against credit debit rules, this is evidenced by the much better learning outcomes in both experimental class diliat of the achievement of KKM and of the average value that is superior - rata 8 points compared to the class who do not use the learning media shaped track/song. This proves that helped students improve learning outcomes through activities that interest him, namely through the media of song. Based on observations during the learning process, the use of media track very attractive to students. This is evidenced by the enthusiasm of students to participate in learning.

In addition, the playback is very effective in making students' learning. Judging from the results of post-test on the rules of debit. The test results using the media of song higher than without using the media track. It prove more students reach KKM in a class that uses the song as a learning media. The results of this study are also consistent with Griffie (1992) that a song can create a learning atmosphere that is fun, so it can give pleasure not only for students who are

capable of, but also the less well-off, have an impact on improving their learning outcomes

This is in line with research Tejo Nurseto the use of instructional media can facilitate learning and optimizing learning outcomes. Teachers should be able to choose and develop the right media (Tejo, 2011). Handayati Wiwit research results demonstrate the effective use of media track can enhance students' skills (Wiwit Handayati Syahrul R., 2013). These results are also in line with the opinions Gustiani (2006: 32) states that one of the advantages of media track is to develop student's imagination. In addition, the playback is very effective in making students' learning. This finding is supported by Yassaei (2012) that the media are very conscious can create a meaningful learning context, can increase the interest, motivation and involvement of students in learning, so that the effect on improvement of learning outcomes.

Hamalik (in Arsyad, 2011: 15) which confirms the use of instructional media in teaching and learning can arouse desire and interest in the new, the motivation and stimulation of learning activities, and even bring a psychological impact on students. This is in accordance with the opinion of Scott & Ytreberg (2000) and Shin (2006) that in order to increase the attention and involvement of students in learning, the main strategy is through the use of support tools or a variety of learning media. Ratminingsih research shows audio media shaped track proved effective to improve learning outcomes (Ratminingsih, 2016).

5. Conclusion

The results showed the use of media songs on the material debit-credit rules can improve student learning outcomes. Media are needed to help students understand the concepts provided by the teacher. Teachers must be creative to create a new learning media are effective in improving student learning outcomes.

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EARLY EDUCATION AND THE QUALITY OF LIFE: THE STUDENTS' PERSPECTIVES TOWARD ENGLISH FOR CHILDREN IN PRACTICE

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Abstract

This study is aimed to discuss the early education and the quality of life, especially English for Young Learners (EYL) or in this article is called as English for Children from the students' perspectives, which must be delivered in a way that reduces barriers to access for the children. Qualitative research method in the form of case study is conducted to obtain the data. Thirty six students of English for Children in Practice (hereafter EFC in Practice) were employed as participants in this study. The research instruments were open-ended questionnaire and interview. The result reveals that the students' perspectives cover two aspects that include benefits and barriers of the EFC in Practice and the quality of life, both for the young learners and the students themselves. One of the benefits shows that participants have positive perspectives of the EFC in Practice (early education). Participants view that this practice is a valuable experience that motivate them to teach better. Then, the quality of life is not only about the level of richness but also about the richness of attitude, character, and the way in bringing the moral value.

Keywords: children characteristics, early education, quality of life

1. Introduction

No country can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and world. It improves the quality of their lives and leads the broad social benefits to individuals and society. Those ideas are related to the early education, especially English for Young Learners Field. In relation to that, this paper aims to discuss the relationships between early education and the quality of life, especially English for Young Learners (EYL) or in this article is called as English for Children from the students' perspectives, which must be delivered in a way that reduces barriers to access for the children.

The formulation of the problem of this research was "What are the students' perspectives toward the English for Children in Practice subject (hereafter EFC in Practice) to the quality of life?"

1.1. Children Characteristics

Children have special characteristics and require a special approach when a teacher wants to teach their language, especially English. It is said to have special characteristics because from birth the children are able to grab the attention of adults around him. Imagine, for example, as suggested by [1], the infant embarks on a journey

to become a communicator when beginning to use eye contact, smile, and begin to gaze at or see in different directions.

The main focus of this point is the characteristics of the child. [2] mentions the characteristics of children, such as children can tell what they are doing, the child can tell what they have just heard, the child has the possibility to plan the activity, the child can argue, the child has a short time span to focus on learning or doing something, and others. In detail, [2] explains that the characters of children aged eight to ten (elementary school age), among them can distinguish between fact and fiction, they ask questions every time, they start to work together in teams, and so on.

Furthermore, [3] argues that children tend to have shorter periods of attention and more enthusiasm for activities that involve physical (physical activity). In this regard, [3] adds that for children, especially the age of five to ten years, rapid activity is needed. No more than 10 or 15 minutes for an activity because children have a tendency to quickly get bored. As children age, the tendency for concentration becomes more elevated.

1.2. English for Children in Indonesia Context

Learning English for elementary school students can be said as the beginning of foreign language learning in Indonesia. As a preliminary

process in learning foreign languages, learning English for elementary school students needs to receive great attention. Not just teaching, such is the initial understanding when will teach English for elementary school students. However, given the attractive and special characteristics of elementary school students, it is certainly necessary to approach, methods, or techniques that are effective in their implementation.

Learning English for children or English for Young Learners since 1994 began to be introduced in Indonesia. Nevertheless, this field of study remains attractive and invites great curiosity to pursue.

Teaching a child is different from teaching an adult, then not all teachers can teach at all levels that each have different principles. Teachers who teach in secondary schools may not succeed in teaching in elementary schools because the students' characteristics is different including their motivation.

Children usually have a good motivation to learn from within himself. This is seen when he heard the word he first understood or his favorite toy he has. Yet this motivation decreases when it acquires abstract knowledge. Therefore keeping the child's motivation to stay high is the most important teacher job.

Some principles that must be held when a teacher wants to teach the language (English) for elementary school students, including the following.

1) Introducing English for children is a big step, so be careful.

2) Children are children, not adults. Therefore, taking into account the characteristics of children, appropriate new strategies can be determined.

3) Teaching children is different from teaching adults, so objectives, materials, learning activities, and evaluations must be designed in accordance with their abilities.

Therefore, an elementary school English teacher should know about the characteristics of the child and how the child learns the language. With this knowledge will help them be able to teach well and show the best. In other words, good teachers will be able to help students learn and know how students achieve the best results.

In addition, it cannot be denied that in the implementation of learning, teachers cannot be separated from several obstacles such as the ability of different students, there are students who are less active, and limited teaching time [4]. However, for different students' abilities for teachers it is not an obstacle that can disrupt the learning process because teachers also realize

that each individual is different. Teachers also want fun learning with various strategies but because of the limited time that teachers have to make the best use of time in learning.

A strong home, school, community connection built on mutual respect and appreciation increases opportunities for learning and collaboration. Sensitivity to and support for diversity in culture, ethnicity, language and learning must be woven into the daily activities and routines of the early childhood classroom.

It is essential for teachers to understand cultural variations and practices and to create a child-centered classroom that celebrates the diversity of all the children in the classroom. Various aspects of culture can have a direct affect on verbal and non-verbal communication, and it is vital for teachers to understand, embrace and celebrate the background and variations of all their students, particularly their culturally and linguistically diverse students.

1.3 Early Education and the Quality of Life

Early education is not only teachers' responsibility but also other social elements surrounded. That is why, universal provision of quality early childhood education, delivered with greater intensity for the children who need it, is a key strategy for changing the trajectories of children. Moreover, reference [6] states that "Early education is one of the most significant investments in education and productivity that governments make. It has positive impacts on all children and is a key strategy for overcoming the impact of early disadvantage on educational outcomes and life chances."

2. Method

The research method used was a case study to describe a phenomenon about students' perceptions of English for Children in Practice to the quality of life. Reference [6] proposes "Case studies are empirical investigations of contemporary phenomena within real-life contexts in which they comprise a bounded system, including an individual or entity and setting in which they act."

Furthermore, the subject of the study was thirty six students of EFC in Practice Subject. EFC in Practice was one of selection subjects in the English Department of Tidar University. Therefore, there were thirty six students who involved in the process of collecting the data.

Open-ended questionnaire and interview were used as the instrument of data collection. The questionnaire consisted of eight questions that covered the purpose of the study. Moreover,

the data collection procedures of this study were as follows.

1. Making the questions for open-ended questionnaire.
2. Giving the questionnaire to the participants (students).
3. Asking the participants to fill in the questionnaire.
4. Collecting the questionnaire that had been answered.

After the data collection procedures had been completed, the data were analyzed in order to answer the research question. For analyzing the data, the researcher had several data analysis techniques such as:

1. Reading all responses.
2. Sorting the data.
3. Organizing, coding, and analyzing the data in order to make the research themes.
4. Elaborating the analysis of the data to get the research findings.

3. Results and Discussion

English for Young Learners seemed to be a special field which involves extra attention and interest from many people. This condition also happens in Indonesia context. Further explanation about the findings of the research can be seen below.

Referring to the purpose of this study that was to describe the students' perspectives toward the EFC in Practice subject and the quality of life, especially for the young learners' quality of life, this part presented the findings and discussion of this study. The findings were based on the interview and the questionnaire that were displayed as follows.

There were many advantages in relation to the EFC in Practice subject. The students get real experience in eaching young learners. They can see taht the characteristics of the young learners is special and unique. As stated in reference [2] about the characteristics of the children. Also, the children tend to be passive or active. Actually, this statement is related to the reference [3] that children tend to have shorter periods of attention and more enthusiasm for activities that involve physical (physical activity). This can be concluded based on the data below.

Data 17: In my opinion there are so many advantages of EFC in Practice. First, we can practice what we have been learned in the last semester about how to teach, especially the young learners. Second, we also can know what actually happen in the real life of teaching. It will

be quiet different when we were practicing to teach our own friends in the class room. Third, when we practice teaching it is also not only about what we teach the student, but it is also about how to handle the students during the lesson. Sometimes they don't listen to the teacher, sometimes they are so passive. That is the obligation of the teacher to motivate them, and make them enjoy the lesson. I believe that in learning you will teach, and in teaching you will learn.

Data 18 : In my opinion, EFC in practice can train me as a college student to improve our ability to teach students in different ages before I attend real teaching or PPL. In fact, students with different ages have different characters and ego; therefore, we need to understand the character of every student in order to handle the class in a proper way. Besides, this practice can help me to understand the subject of the study because practice is effective way to master the material rather than writing or reading the material. So, I have a chance face up the class situation and learn solve the problem in the class before attend the real teaching practice.

The next discussion is related to the quality of life. This can be analyzed from the students and the young learners. As stated by reference [6] about the life chance. Further information can be read from the data below.

Data 22: *"Attending EFC in Practice Subject help me to improve the quality of my life and the quality of young learners' life."*

Reason: I do agree with that statement because honestly when I do the teaching practice I have to manage my behavior. I have to be the good example for my students. Although sometimes there are so students that naughty but I am not allowed to get angry with them. I have to be patient and talk to them so that they can be nice. I believe that if you want to be accepted when you teach the young learners, sometimes you have to put yourself in their condition. Furthermore, it also help the students to be nice and understand what you want them to be and to do.

Data 25: *"Attending EFC in Practice Subject help me to increase my teaching and problem solving abilities"*

Reason: I strongly agree with that statement. In my opinion, attending EFC in Practice is the best way for me to develop my teaching skill and it is really suitable for the students who want to be a good teacher. When we are studying about how to teach probably we just think that it wilk be so easy, but in the real teaching it will be totally different. During the

EFC in practice I just realized that sometimes what we think will be good for students will be difficult for them to understand. We also cannot push the students to do what we want them to do. What is in our mind and what are in their mind are sometimes totally different. Me as the teacher have to think like what they think. It is also help me to handle the classroom that probably different with when we were teaching our friends.

Based on those (some of the research finding), it can be said that English for Children Subject used to give opportunity to the English Department Students of Tidar University who took this subject to do practices in teaching young learners. There were some advantages can be taken by the students by joining this subject. Those are experience in teaching young learners, knowing the children characteristics, managing the young learners, and giving contribution for their own quality of life and the young learners'.

To sum up, this subject facilitate the students of Tidar University and the young learners in relation to the quality of life. Moreover, the quality of life is not only about the level of richness but also about the richness of attitude, character, and the way in bringing the moral value.

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THE QUALITY GAP AND INEQUALITY OF EDUCATION IN INDONESIA

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Abstract

The existence of a gap in the quality of education and education inequality is the reason in writing this article. Therefore, this article aims to answer some questions.. What are the forms of education quality gap that occurred in Indonesia? What are the forms of injustice education that exist in Indonesia? The method used was a literature review based on secondary data. The result in this study were getting other forms of disparity of quality of education both culturally and structurally. In Indonesia there is still inequality of education quality and educational inequalities as well. These forms of education quality gap seen from the existence of a gap between each province in terms of APM, Transition Rate, Repetition Rate, and Drop-out Rate. There is a striking difference between the areas outside Java and Java. In addition, the existence of inequality of education whether it is from the level of elementary, Junior High and High School seen from the qualification of teacher education and school infrastructure. There is striking difference in Java and outside Java.

Keywords: quality gap, inequality, education

1. Introduction

Education is one of the most important aspects in nation building. Many experts claim the success of state development is supported by the availability of an educated population in sufficient numbers. Therefore, almost all countries place education development as a top priority in national development programs. Quality Human Resources which is a livelihood product is the key to the success of development.

Development in a country can not be separated from the development of human resources (HR). In economic theory states that human capital is one important factor in the economic growth process. With quality human capital, it will encourage creativity and productivity of the people who will ultimately affect the performance of the economy that will affect the increase in social welfare. Increasing people's welfare is one of the goals of national development. Therefore the quality of human resources in Indonesia needs to be considered, especially the attention to the field of education is the quality of education.

The development of national education should be able to ensure equal distribution of educational opportunities and equitable quality of education. Indicators of equity can be seen from three things (Riant Nugroho, 2008), namely

Rough Participation Rate (Angka Partisipasi Kasar/APK), Pure Participation Rate (Angka Partisipasi Murni/APM) and School Participation Rate (Angka Partisipasi Sekolah/APS). APK is the percentage of the number of pupils in an educational unit of the age-related population either in aggregate or by student characteristics. APM is the percentage of the number of pupils at a fixed age to the school-aged population at the educational unit level, both on aggregate and by student characteristics. APS is the number of students in a certain age group that is represented in several educational units, both in aggregate and by student characteristics. Furthermore, educational development indicators can be assessed by participation rates, drop-out rates, repetition rates, teacher teacher and teacher teacher ratios, teacher eligibility, school conditions, teacher eligibility, schooling conditions, and school quality (Siti Irene, 2015).

2. Method

The method used is literature review based on secondary data.

3. Results

Education Quality Gap in Indonesia

From the description in the introduction mentioned that one of the indicators of educational development is the Pure Participation Rate (APM). The following is a table on APM in 2016/2017 from several provinces.

Table 1. Percentage of Pure Participation Rate (APM)

Province	Primary School	Junior High School	High School
DKI Jakarta	96,15	84,79	71,87
DI Yogyakarta	90,58	80,39	76,48
Aceh	91,53	78,19	63,27
Kalimantan Utara	92,99	69,91	58,70
Sulawesi Barat	91,13	78,57	59,23
Maluku Utara	93,38	76,99	64,66
Nusa Tenggara Timur	93,66	69,67	56,91
Papua	72,30	42,86	33,24

Source: publikasi.data.kemdikbud.go.id

From the table above, it can be seen that there is a gap between the regions in Indonesia. The most striking area is the province of Papua which has the lowest percentage of APM compared to other provinces. This shows that there are still educational gaps visible from the result of inter-regional education development.

Indicators of continuing education development can be seen through Transition figures. The following table presents the percentage of Transition Rates in some provinces.

Table 2. Percentage of Transition Rates

Province	Primary School to Junior High School	Junior High School to High School
DKI Jakarta	87,50	105,84
DI Yogyakarta	85,86	112,28
Aceh	80,07	102,27
Kalimantan Utara	86,81	97,30
Sulawesi Barat	72,42	95,46
Maluku Utara	75,69	94,80
Nusa Tenggara Timur	90,80	91,33
Papua	83,33	91,90

Source: publikasi.data.kemdikbud.go.id

From the table, it is seen that the Resume Rate in each province is not much different. In addition, it is evident that the Transition Rate from Junior High School to SM are higher than the Transition Rate from elementary to junior high school.

Another educational development indicator is the Repetition Rate. Repeat rate is the percentage of students who repeat at a certain

level of education. The following is a repetition rate table from some provinces.

Table 3. Percentage of Repetition Rate

Province	Primary School	Junior High School	High School
DKI Jakarta	0,53	0,37	0,16
DI Yogyakarta	1,06	0,18	0,11
Aceh	1,04	0,35	0,31
Kalimantan Utara	1,83	0,74	0,57
Sulawesi Barat	1,51	0,30	0,21
Maluku Utara	1,69	0,25	0,26
Nusa Tenggara Timur	3,84	0,23	0,27
Papua	3,03	0,80	0,74

Source: publikasi.data.kemdikbud.go.id

From the table it can be seen that the Repeat Rate for the provinces of East Nusa Tenggara and Papua is high. This shows the gap in the quality of education among provinces in Indonesia.

The next indicator is the School Breakout indicator. Drop Out Rate is the percentage of students who do not complete school at a certain level of education. The following is the percentage table of drop out rates in some provinces in Indonesia.

Table 4. Percentage of School Drop Out Rate

Province	Primary School	Junior High School	High School
DKI Jakarta	0,12	0,29	0,39
DI Yogyakarta	0,06	0,18	0,50
Aceh	0,21	0,31	0,87
Kalimantan Utara	0,19	0,43	0,48
Sulawesi Barat	0,27	0,54	0,83
Maluku Utara	0,32	0,51	0,59
Nusa Tenggara Timur	0,24	0,79	1,45
Papua	0,59	0,71	0,75

Source: publikasi.data.kemdikbud.go.id

Based on the data in the table, it is found that the drop out rate in Java is lower than outside Java. This also shows the gap that exists between provinces in Indonesia.

Inequality of Education in Indonesia

In the development of education in Indonesia there has been an increase in the Participation Rate of Rough and Pure Participation Rate from year to year. This is shown in the following table.

Table 5. Percentage of APK and APM

APK dan APM	2014/2015	2015/2016	2016/2017
APK SD sederajat	109,05	108,00	106,44
APM SD sederajat	93,53	93,38	93,73
APK SMP sederajat	100,51	100,70	101,05
APM SMP sederajat	80,76	81,01	76,29
APK SM sederajat	75,53	76,45	81,87
APM SM sederajat	57,15	59,10	61,20

Source: publikasi.data.kemdikbud.go.id

Based on the table it is also seen that 6.27% of children aged 7-12 years, 23.71% of children aged 13-15 years, and 38.80% of children aged 16-18 years are not attending school or have not attended an education compatible with age. This shows the need for government attention in the context of national development and improvement of human resource competitiveness.

Another indicator of educational development is that of the educators themselves. Below is a table about Teacher qualifications that are still under S1 in some provinces in Indonesia.

Table 6. Percentage of Teacher Education Qualification and Principal Under Bachelor Degree

Province	Primary School	Junior High School	High School
DKI Jakarta	8,20	5,20	2,11
DI Yogyakarta	9,61	7,91	2,87
Aceh	23,24	9,20	2,91
Kalimantan Utara	27,83	6,81	3,18
Sulawesi Barat	33,21	12,81	3,47
Maluku Utara	49,25	23,09	5,05
Nusa Tenggara Timur	32,88	14,06	3,77
Papua	45,08	16,64	3,78

Source: publication.data.kemdikbud.go.id

From the table above shows that there are some provinces whose teachers or teachers are still not S1. Whereas the Law on Teachers and Lecturers number 14 of 2015 mandates that the minimum qualifications for elementary, junior and senior high school teachers are S1. The province is a province outside of Java. This is seen in the province of Maluku for elementary school teachers who have not S1 almost half. This shows that there is no equity in educators, most qualified and qualified S1 educators are

concentrated in big cities and on the island of Java. This needs to be considered in terms of placement of educators and mapping educators need to be considered again.

Furthermore, the inequalities of education in addition to the views of teacher qualifications and mapping of educators in each region in Indonesia, can also be seen from the existing infrastructure. Here is a table that outlines the educational infrastructure of the classroom. There are several categories of classroom conditions, from being lightly damaged, moderate, heavy and totally damaged. However in this table it will only highlight the severely damaged conditions.

Table 7. Number of Classrooms Based on Heavy Damage Condition

Province	Primary School	Junior High School	High School
DKI Jakarta	313	177	11
DI Yogyakarta	211	101	16
Aceh	1.520	676	155
Kalimantan Utara	175	39	4
Sulawesi Barat	877	136	18
Maluku Utara	713	209	62
Nusa Tenggara Timur	3.945	911	242
Papua	1.292	232	43

Source: publikasi.data.kemdikbud.go.id

Based on data from the ministry, there are still gaps as well as teacher qualifications. In the outer islands of Java there are many class buildings that are damaged, even classified as seriously damaged. Therefore, the government should pay attention to this, adequate development should not only be concentrated in the city bear only, but also in areas outside Java.

4. Discussion

Education is a human right of every Indonesian citizen and for that every Indonesian citizen is entitled to obtain quality education in accordance with the interests and talents he has. Equitable access and quality improvement of education will make Indonesian citizens have life skills that encourage the full development of people as well as civil society and modern that imbued the values of Pancasila.

In reality, education in Indonesia still lacks quality gaps as well as inequality. The educational quality gap is seen in the uneven form of quality in every province. The form of injustice can be seen from the unequal educators and infrastructure development in every region.

According to Slamet PH (2014), to address educational equity in the form of educational gaps, it is necessary to manage through structural, cultural, and figural interventions. Struktural that is through policy, planning, and budgeting of education which is more pro poverty and pro lagging area, isolated, scattered and isolated. Therefore, the SM3T program needs to be implemented every year and there is also a need for sustainability in the placement of teachers.

5. Conclusion

In Indonesia there is still an imbalance in the quality of education as well as inequalities of education. The forms of educational quality gap are evident from the gap between the provinces in terms of NERs, Repetitive Figures, Continuing Rates and School Drop Outs. There are striking differences between the areas outside of Java and the regions of Java. In addition, there is also an injustice of education both from elementary, junior high and high school level visible from the teacher education qualifications as well as school infrastructure. There are striking differences in Java and outside Java.

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THE MEANING OF SCHOOL FROM DROPOUT'S VIEW POINT (A PHENOMENOLOGICAL STUDY)

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Abstract

Student dropouts are complex problems in Indonesia. Some of the dropouts living in rural areas have migrated to the large cities. It contributes to the child labor growth which is already one of the major problems in Indonesia. Knowledge about the meaning of school from their perspective could be helpful for policy and programs related to dropout prevention. The purpose of this research was to explore the meaning of school according to the dropouts and the barriers of getting back to schools. This study was a phenomenological study involving 5 adolescents who have dropped out from schools. In collecting the data, we conducted open-ended interviews. Triangulation and reflection of researchers being used to ensure trustworthiness and authenticity of the data. The results show 4 themes regarding the meaning of school emerged from the data. These are to make more friends, to please parents, to get the diploma, and a place to study. We also found 3 themes about the barriers to get back to school such as feeling ashamed, having no friends, and having already jobs. The forms of educational systems that encourage schools and teachers to pay attention to group activities, friendship in schools and job schedule seemed to be in line with the findings about condition of school dropouts in this study.

Keywords: student dropouts, meaning of school, phenomenological study

1. Introduction

School dropouts were still a problem of Indonesian education. According to UNICEF & UIS data (2011) there were 3.79 million dropout children in Indonesia, and this was the largest number in Southeast Asian countries. Utomo, Reimondos, Utomo, McDonald, & Hull (2014) mentioned that the main cause of dropping out of school was economic reasons. Although elementary and junior high schools had been free, but parents still had to pay for transport, uniforms and reading instruments. In addition to economic reasons, geographical and socio-cultural conditions also cause many children to drop out of school.

The existence of school dropouts in Indonesia were a serious problem that must be addressed by the government. In Government Regulation No. 47 of 2008 state that compulsory education was a minimum education program that must be followed by citizens on the responsibility of government and local government.

Many Children, who drop out, were looking for job in big cities. The work gained, according to their educational capacity and skills, was a menial job. Based on data from SUSENAS (Patunru & Kusumaningrum, 2013) the highest

central working place of children under 18's was the city of Jakarta, followed by other cities in East Java, West Java, Central Java and Banten. BPS & ILO data (2009) says there were 3.6 million children under the age of 18 who become workers.

The number of native dropouts in Yogyakarta city may said to be very small. Yogya city's BPS data shows that there were only 0.01% of school dropouts at 2013. But as explained above, urban areas including Yogya city became the destination of school dropouts from the surrounding area to work. Some of the rough work they do such as peddler and shopkeeper.

The remain high number of dropouts in Indonesia required holistic solutions, not only physical treatment such as providing free schools and packaged programs. Dewi, Zukhri, Dunia, & Erg (2014) found that some causes of drop out among them were parental factors, child's interest and culture. A qualitative approach studies were required for Solutions of these factors.

Itsnaini's (2015) qualitative study about the causes of Junior High School dropouts in Yogya City found that the internal causes of the students drop-out were due to laziness, weak academic ability and the economic condition of the parents.

Demartoto's research (2008) in Surakarta found that insufficient program to solve the problem of dropouts was due to the ineffective communication of the organizers to the parents or the children.

Man is a conscious being, in which every behavior was strongly influenced by meaning and values. A person who was hungry can be survive to not eat even though there were plenty of food in front of him while fasting, because there was something more valuable to him than eating. Therefore, other things can be extracted to solve the problem of dropouts are about the school meaning for dropouts, as well as the reasons why they do not want to returned to school. These reasons can sometimes be known directly but are often hidden in their innermost views and thoughts. Qualitative research is very useful.

2. Method

The epistemological base for this study was constructionism. The nature of knowledge according to constructionism perspective is that the meanings of human reality are not discovered, but are constructed by human beings (Crotty, 1998). The construction of meaning required active engagement in the real world. The process of meaning construction, from this perspective, always involves intentionality and consciousness (Crotty, 1998).

The study used phenomenological approach, which assumes that reality was the construction of human consciousness. It means that experiences in human beings will produced certain meanings because of his consciousness. The data collected by in-depth interview technique to five drop outs who work in Yogyakarta city. The selection of five participants was done by purposive technique and snow ball. Their age was between 16 to 18 years old. School dropout they experienced was more than a year on the grounds of having sufficiently experienced as a school dropout identity, according to the phenomenon that became the focus of the study. Phenomenological methodologists suggest considering how a phenomenon is experienced at the level of "immediate experience," during the participants experience the phenomenon in a deep engagement (Langdrige, 2007)

Interview protocol was semi-structured, which reason it can obtain advice from other researcher before using and still possible to adjust according to conditions during the interview took place. Interview time adjusted to the condition of participants who were always

busy on their job. Interviews were conducted in their free time between 30 minutes to an hour. Data collection was done throughout two month starting from February until March 2017. Besides interview also used participant observation and photo elicitation technique as complementary.

Data analysis technique is based on Creswell's (2007) explanation about important and meaningful search statements for constructing textural and structural descriptions. Three important steps to make it happen were to arrange transcripts from interviews, observation and photo elicitation, read them entirely, coding and composing themes. The second step was the preparation of textural and structural descriptions. The final step was the synthesis of the textural-structural description.

Triangulation and reflection of researchers being used to ensure trustworthiness and authenticity of the data. Triangulation applied between participants and data collection techniques. Reflections of researchers are recorded consistently in the form of journals, each stage of data retrieval and analysis.

3. Results

The results of the researched on dropout students who work in Yogya city showed that the meaning of school for them includes four themes: to make more friends, to please parents, to obtain diploma and as a place to study. While the barriers to go back to school include three themes: feel ashamed, have no friends and already work.

A. Meaning of School from dropout view point

1. Made More Friends

The most consistent theme about meaning of schools appears in the data was as a place where they have many playmates. The most memorable thing and always remembered or missed by all the participants was their friends during school. Some documents on their facebook account confirming friendship was very meaningful for them. The most painful thing they felt in early phase of out from school was the breakup from their relationship with friends at school. Statements about the experience were "*tidak bisa main-main lagi bareng mereka,*" or "*pingin aja, temen-temen kan bareng, bermain, belajar.*"

This theme not only arise in the initial question about the meaning of the school, but also on other questions like the most memorable experience in school and was there a desire to go back to school. The period of school dropouts, before and after work was also much influenced

by friendship. The phases of their lives will pass well if they have many friends.

2. To Please Parents

The second theme of school meaning that also often arises was schooling as an activity that will please their parents. Meaning of schooling as something that will please their parents especially they experience after dropping out of school. One reason they want to work after dropping out was to please parents who feel embarrassed when they were not in school. Statements about it, "*orang tua senang kalau kita kerja, tapi sebenarnya lebih senang lagi kalau sekolah*" and "*orang tua susah mas kalau aku nggak sekolah, nggak kerja juga, mau jadi apa kataya.*"

The initial motive of the school process was generally asked by parents. School become a liability caused by the demand of parents. Children in this study did not explained their future when discussing school periods. Internally driven by the desire to have many friends, externally driven by the demand of parents.

3. To Get the Diploma

Meaning of the school appears in some participants was as a place to obtain the diploma. Not every participant expresses this meaning. It expressed by participants who want to get job in factory that requires the diploma. Participants not expressed it were those who want to continue self-employment. Statements that showed this theme for example, "*Pentingnya sekolah itu, kan karena ada ijazah. Kan gampang kerja, misalnya kerja di pabrik.*"

For children who intended to continue work independently, the diploma become unimportant. Even one of the participant admitted losing his certificate. It showed that the diploma was less meaningful for him. But other participants argue that the diploma was very important, especially to get a decent job.

4. Place to Study

The meaning of school as a place to study, both science, religion and attitude, expressed by all participants. But this statement only appears to the question of what was done in school. This statements did not reappear when discussing the importance of school or what most memorable thing in school.

The learning content described by the participants did not directly mention the name of any particular subject. They explained that school was a place where teachers taught so many things therefore students become smart. Things were taught include general knowledge, stories of the prophets, discipline and counting. The impact of learning for them was made children in school generally smarter and good-

natured than children who were not in school. They even told that children who were not in school were used to lazing around and fighting parents.

B. Barriers to Get Back to School

1. Feel Ashamed

The most consistent theme of the barrier to get back to school in this study was being ashamed. The causes of out from school such as moving home too often, economic reason, running away from home or failed to pass the class gave them embarrassed feeling to go back to school. The embarrassment they experienced was in the presence of new friends at school and their neighbors.

The embarrassed feeling they often said refer to a barrier to back to school was not explained in depth. They mentioned that the shame they also experienced when the first time to work, but eventually disappeared by time. Shame was portrayed as an uncomfortable condition and a tendency to avoid meeting others. Discomfort as a student who once gone out of school make them feel uncomfortable and finally choose to delay or even not go back to school.

2. Having No Friends

The next theme about barrier to return to school because they have no friends in the new class to be entered. The absence of friends makes them feel alienated and ultimately embarrassed. As explained before, the world of friendship was a very meaningful experience for these children, either during school or when dropping out and after work. Statements about this theme for example, "*Pernah dibilangin mau lanjut apa nggak, gitu. Aku bilang nggak, malu. Mau pindah ke situ, ke Dasem. Tapi aku nggak mau, malu.*"

The embarrassment to go back to school will be disappear if they found new friends. But the experience of participant who tried to go back to school, it was difficult to get new friends. It caused them finally become uncomfortable and did not want to go to school anymore. They feel unfamiliar when trying to get back to school, even though there were nice teacher but did not have friends completely dispelled the spirit to continue school.

3. Having Already Job

The last barrier to go back to school was because already have a job. Job has been quite pleasant for parents after dropping out of school. In addition, because they have their own money, no need to asked to their parents. Some are already convinced to continue working and not going to school, but some still want to rethink to continue schooling (ie through a packaged

program). If later they can go to school while working, they will return to school.

The children who dropout of school in this study came from outside areas of the Yogya city. These geographical conditions made it very difficult for them to go back to school if they still want to work. That's caused they should delay desired to going back to school. They also said in working they learn many things directly, so it's actually similar with school.

4. Discussion

Children are our next generation or future of the nation, therefore their existence was considered very valuable. Quality of children's development determine how the quality of the nation in the future. Children themselves according to Law Number 13 Year 2003 are male or female under the age of 18 years. From the social aspect, child was an individual who not yet autonom and really still need protection, from other responsible people like their parents and teachers.

School dropouts, viewed from several perspectives of the function of education will make children experiencing some consequences in their life. The first perspective, and perhaps the most prominent in the industrial world, was to prepare children with skills so they can be part of the industrial workplace. As explained by Goodlad (1984) the existence of industry changed the demands of society to school, one of them to prepare children to play a role in industrial world or work in general. From this perspective children who drop out will experience obstacles to enter the workplace. As a result, when they have grown up and married, the chances of their children experiencing an educational problem will be even greater.

Studies showed how the financial condition and family profession affect education and then children drop out and look for work. Dewi et al. (2014) in their research suggest that the main cause of drop outs is the economic factor. Ambarwati's (2010) study of school dropouts and work showed that they finally decided to no longer continue their schooling.

The second perspective was education as a space to develop the child's personal as a whole person. Thinkers like Abraham Maslow and Carl Rogers view children as human beings with basic needs and potentials to develop (Sularto, 2016). Indonesian education figure, Ki Hadjar Dewantara, in accordance with this second perspective, states that education must be tailored to the nature of the child, not through coercion (Tilaar, 2002). Based on this perspective,

children who drop out of school will inhibit their development to actually develop into a fully person with their intellectual, emotional, social and spiritual potential. At the end it will cause many problems when the children get in to society.

Kelly's dissertation research (2012) was an example of how dropouts are influenced by external factors (family and friends) and internal (prior learning experience) factors. Dropouts will experience inhibition of various potentials, in the study focused on the potential literacy (intellectual).

Lower self-concept cause by the previous poor learning will turn out to be more severe in inhibiting literacy of children when dropping out.

The third perspective was education serves to foster awareness and strength for human to change themselves and the environment. Brazil Freedom critical education leader, Paulo Freire, states that education should foster participatory awareness and not treat students like empty bottles that ready to be filled with the competencies or skills desired by educators (Tilaar, 2005). Freire does not obligate education to take place in schools only, in fact he opposes educational practices in schools that precluded the awareness and creativity of children. Based on this perspective, school dropouts can not be directly deemed to be failed. Conditions that cause the child to drop out of school and how the life process happened after that determined how the impact of the drop out of school experienced. In many cases we found successful people who were the ones drop out of school.

The critical perspective of education becomes the foundation, especially to explore how the conditions owned by students who experience social oppression and marginalization. For example, West's (2013) study of the poor outcomes of black children in the United States, especially because the children feel disconnected from teachers and educational processes.

In this study the main perspective was the second perspective of education that serves to guide the child to grow and develop into a fully human person. Although schools have weaknesses, but long history of schools in Indonesia ranging from the birth of many national independent heroes to become one of the main national development motor was the foundational reason of optimism about the great power of schools to build the child's personality. It should be emphasized that schools were not the only educational institutions for children. This was consistent with Tilaar's (2005) view that education in childhood was largely determined

by the family, when switching to adolescence will be more determined by the community (including school and peers), whereas to adulthood education should be taken place independently determined by the person itself.

Parents and teachers become central figures in the process of childhood education of early age. But along with the development and expansion of the child's relationship will emerged a new world that influenced their lifestyle, namely the world of peers. Sigelman & Rider (2009) mentions that children from 2 to 12 years of age will experienced shift in interaction, from interaction with parents to interaction with peers. In addition boys did more interaction in groups compared with girls.

Tendency to interact with peers creates a strong desire to be accepted into the group, this also occurs in the interaction of students in the classroom or school. Dopplinger's research (2014) showed that acceptance of friendships in the classroom was selected by students' perceptions of their peers, and it was also influenced by the teacher. Peer support at school based on Kiefer, Alley, & Ellerbrock (2015) had an impact on motivation, involvement and ownership of the school. Such support can be academic or emotional, and have unique implication for each child.

Findings in this study indicated a link between the meaning of the school and the barrier of drop-out children to return to school. The main meaning of school was as medium of socialization, with their peers. As explained by Sigelman & Rider (2009) that from preschool age children have undergone a shift in social interaction, from home to peers. Similarly, the results of research Kiefer et al. (2015) which showed that friendship in school affects the motivation and sense of belonging to the school. The meaning of friendship is what seems to create the feelings of ashamed and also lack of enthusiasm (when separated from old friends) to returned to school.

The second meaning of the school for drop outs in this study was the activity that pleased their parents. Children experienced the transition of social interaction from home to peers. That was, although there was a strong influence of peers, but identity as part of the family was not disappeared. Barrier that already work made them not go back to school caused by the meaning of the school to pleased parents. Jobs that also pleased parents seemed to replace the role of school.

Based on these meanings and barriers, education for dropouts, especially for those who have worked, should be differed with the

education of children who were still in school. Job that also have important meaning for their life should get attention. The concept of informal education that treated learners as partners in learning, as well as accommodating their various living conditions (in this case work), become one of the educational character suitable for dropout children. Milligan, Littlejohn, & Margaryan (2014) mentioned that very important aspect of informal education based on the world of work were self-regulatory capacity, and effectively utilizing technology.

Friendship in school is one of hidden education. Schools and teachers may provide support for the creation of a friendship process among students. Brighi, Mazzanti, Guarini, & Sansavini (2015) in their research explained that the role of teachers primarily was to create conditions that allowed each student to get benefit positively from their interactions with friends. The forms of educational systems that encourage schools and teachers to pay attention to group activities and friendship in schools seemed to be in line with the findings about condition of school dropouts in this study.

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CLASS MANAGEMENT IN IMPROVING STUDENT LEARNING ACHIEVEMENTS IN ISLAMIC BASIC SCHOOLS (CASE STUDY IN SD IT DARUL FALAH)

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Abstract

The role of the teacher as a manager in the learning process in the classroom is one determinant in the achievement of student achievement. Management class that has not done well, resulting in a huge gap on student achievement. Thus, teachers are required to be able to manage it well. This paper describes the management classes conducted by teachers linked to student achievement Elementary School Grade 3 SDIT Darul Falah Solo Baru, Sukoharjo. This research is a case study. Data collection techniques using in-depth interviews, observation, and documentation. Data analysis was performed with data reduction, data presentation, and conclusion. 3) SDIT Darul Falah in improving student achievement are: 1) Physical management, covering: Physical management through seating arrangement, cleaning classroom, and arranging and preparing facilities, Such as stationery, learning media, learning resources. Non-physical management through activities: student management through habituation, tadarus juz amma, understanding the characteristics of each student, from academic, social, and economic conditions, establishing relationships with parents / guardians, and creating learning conditions by habituation to be honest, confident, And discipline in doing the task.

Keyword: classroom management, learning, academic achievement.

1. Introduction

In the Law of the Republic of Indonesia Number 20 Year 2003, the function and purpose of national education is to develop the ability and form the character and civilization of dignified nation in order to educate the life of the nation, and the development of the potential of learners to become human beings who believe and pious to God Almighty, Be noble, healthy, knowledgeable, capable, creative, independent, and become a democratic and responsible citizen. The function and purpose of the education implies that education is organized to create qualified human beings. For the sake of the achievement, then the role of a teacher is needed.

Teachers have a very important position for education in Indonesia. The law also explains that teachers as educators are professionals in charge of planning and implementing the learning process, assessing learning outcomes, providing guidance and training. Professional teachers can be seen in the implementation of the duties of duties and responsibilities in implementing all devotion, which is reviewed from four competencies, namely competence

pedagogic, kepribadian, professional, dan kompetensi social. Responsibility for professional competence is realized by the teacher through the understanding of the substance / material / content / subjects that become his area of expertise. Professional responsibilities, or intellectual responsibilities, are manifested through the mastery of the various tools of knowledge and skills necessary to support their duties. Being an effective teacher involves not only deep-seated knowledge, but also organizational, management and communication skills, being able to organize instruction, and providing relevant assessments and fair evaluations (Moreno Rubio, 2009). Teachers are able to manage their teaching and learning programs as well as their interactions, Managing classes, performing performance appraisals, simple research, and school administration. A teacher who has personality competence can be seen in the ownership of commitment and willingness, compassion, and solid responsibility in carrying out every task. Teachers who are socially competent, are shown in their defense of the various influencing factors in creating a learning environment that supports

the teaching and learning process. In this social competence, teachers are required to understand the various socio-cultural and economic factors that affect the educational process of their students, to understand the relationship between the school with parents and community leaders, to understand the importance of the values and norms prevailing in society, and to master the changes due to impact Globalization.

Efforts to realize the goals and functions of national education towards the creation of quality human beings, it is necessary to improve the quality of education that can be synergized in the learning process conducted by teachers in the classroom. Teachers who have good professional competence are seen in the process of quality learning, in the sense that this process will provide a good learning achievement. Teachers who are able to manage the class, by creating and maintaining optimal learning and teaching conditions and return it when a disturbance occurs, will affect the achievement of student learning achievement. Usman (2003: 97), effective classroom management is an absolute prerequisite for the effective learning process. This is in line with the results of research from Abdul Muiz (2010), that there is a positive and significant correlation between classroom management conducted by teachers with student achievement. Good classroom management will have a significant effect on student achievement.

Meanwhile, in SDIT Darul Falah, Grogol, Solo Baru, in third grade students, there is still gap in the highest and lowest learning achievement. Many scored high, but found also the lowest value between the two have a large difference. SDIT Darul Falah is one of the Integrated Islamic Primary Schools owned by an orphaned foundation located in Pepe, Langenharjo, Grogol, Solo Baru, Sukoharjo, with accreditation status A. SDIT darul falah has a motto to build an Islamic generation to the divine ridlo. This school combines the curriculum between the department, depag and boarding school is expected to graduate from SDIT darul falah have noble akhlaq, intelligent, creative, mastered science and technology but still firm in faith and devotion. To that end, the school seeks to organize the educational process based on Islam by collaborating the national education curriculum with the curriculum of the religious department. The existence of such a huge achievement gap from the Darul Falah

SDIT is an oddity requiring further solutions to resolve it.

Based on the background of the problem, this research will describe classroom management conducted by third grade teachers when conducting classroom learning activities.

2. Method

The design of this research is a case study study. With the population are 3rd graders in the Darul Falah Sukoharjo Integrated Islamic Primary School. The research variables are class management and student achievement. Sources of data were obtained from documents, in the form of student progress reports, archival records (in the form of teacher diaries containing student activity records and behaviors, and teacher and parent contact letters), focused interviews addressed to grade 3 teachers, and open interviews Addressed to the parent / guardian of the student; Direct observations made in the classroom while learning is taking place. The instruments used for data collection are interview sheets and observation. Classroom management data collection is done with interview sheets, observation and documentation. The data collected in this research is primary data. The collected data is tabulated according to the nature of the data and the purpose of data analysis. Data analysis is done by data reduction, data presentation, and conclusion.

3. Result

Classroom management is an effort undertaken by the organizer or person in charge of teaching and learning activities or who assist with the intention to achieve optimal conditions so that the expected learning activities can be accomplished. The description of classroom management in this study refers to two elements, namely physical and non-physical. Physical management related to the management of physical conditions in the classroom includes room where the learning process, seating arrangement, ventilation and lighting arrangement, arrangement and storage of goods, while non-physical management includes student management, with socio-economic conditions, and forms Human relations. Based on this, the results of classroom management in the Darul Falah SDIT are listed in Table 1 below.

Table 1. Type of Classroom Management

No	Type of Management	Aplication
1	Physical	The teacher regulates the physical condition of the class every day, when learning will begin, including: <ol style="list-style-type: none"> Arrange the seating Clean up the classroom Organize and prepare facilities, such as stationery, learning media, learning resources
2	Non physical	<ol style="list-style-type: none"> Student management through habituation, the first 15 minutes before the lesson begins tadarus juz amma Understanding the characteristics of each student, from academic, social, and economic conditions, Make connections with parents / guardians Create learning conditions with the habit of being honest, confident, and disciplined in performing the task.

1. Discussion

Classroom Management Physically

Classroom management is physically done through student seating arrangements, cleaning up classrooms, and organizing and setting up facilities, such as stationery, learning media, learning resources.

Every day, the teacher in the third class is managing the student seat. Female students sit between women. Likewise male students. In this class there are 16 female students and 12 male students. All students are playing their seats, with rules like Figure 1 below:

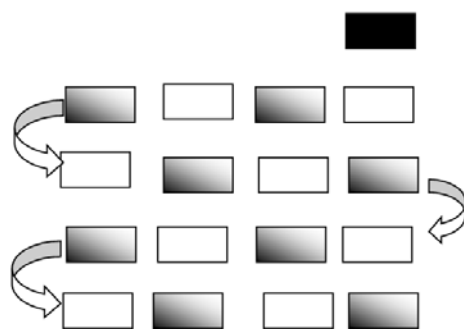
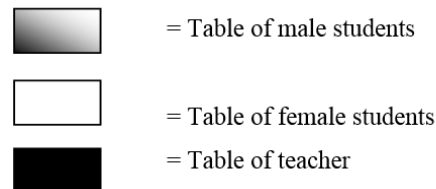


Figure 1. Plan of Student Seat Arrangement
Information :



The purpose of this seating arrangement is for male and female students to interact with each other and discuss tasks as group learning takes place. This is one component to be able to apply cooperative learning. Students are divided heterogeneously, both in the aspect of academic ability, social conditions, religion, and gender. With this kind of grouping, the gap of some aspects will gradually fade.

The seating is rotated, from the one sitting in front of the teacher's desk will shift to the left, so also for the one who sits at the back will move to the front of the teacher's desk. This rotation is done every day.

The activity of managing the dudu place by turning every day turns out to be a bad thing for passive students. In addition to having less academic ability, when the child is sitting in the back, learning conditions are not very supportive. Seating positioning is done in order to:

Minimize the occurrence of saturation in students, so that the condition of the class is considered to be more supportive in learning.

- Growing intimacy among students. With more intimate, the spirit to work together more easily achieved.

b. Facilitate teachers in understanding the advantages and disadvantages of students.

c. Class life will be more easily formed in dynamic conditions, so it tends to be cooperative.

d. Able to encourage students to know each other's character karaktitikitik, so the socialization process will be formed naturally.

Seating arrangements can improve student achievement. Sitting in the front row in the classroom leads to a higher learning increment between 5 percent and 27 percent compared to seats in other lines that are away from the blackboard (Ngware, Ciera, Musyoka, & Oketch, 2013). Seating arrangements that can deliver these results are shaped horseshoe or U-format, U-closed format, large circle, and small box. However, in the class we observed, the teacher had never made arrangements with the forms. This is because the classroom is minimally sized, while the tables in the class are rectangular, which is less dynamic if always done such a seating arrangement. Management of student positions must also pay attention to physical conditions, such as wearing glasses and physical condition of the body. Students who tend to have a high physical, placed on the back and front, but the position when at the front is at the very end. Seating arrangements as well to create specific study groups preventing the grouping of high achieving students or the two lowest performing students should be avoided this will lead to difficulty adjusting in the learning process (Szparagowski, 2014).

The learning achievement obtained shows a large gap when compared with the highest mean value. There are two factors that influence it, namely internal and external factors. Internal factors are factors of self, which include, (1) physical factors (physiology), for example about the condition of the five senses, disability, (2) psychological, such as attitude, personality, achievement motivation, interest in learning, learning independence, study habits, And others, and (3) psychic maturity factor. External factors, namely factors that come from outside include social factors, culture, physical environment, and spiritual environment. Social factors include the family environment, school, community. Cultural environment such as customs, and physical environment include learning facilities. Student seat conditioning is one of the external factors that affect student achievement. The condition of student performance is determined by the people around him (Hong & Lee, 2011).

The next classroom management is to clean up the classroom, organize and prepare learning facilities. The condition of clean classrooms and the completeness of learning facilities affect the learning and teaching activities. In line with the opinion of Rasdi Ekosiswoyo (2000: 67), that the terms of a good class and eligible to learn among others are neat, clean, healthy, and enough light.

Classroom Management Non-Physically

Student management through habituation, the first 15 minutes before the lesson begins with the memorization of juz amma, understand the characteristics of each student, from academic, social, and economic conditions to establish relationships with parents / guardians.

Based on the observations, the habit of memorizing juz amma for 15 minutes has been cultivated in this school starting from grade 1. Thus, if students memorize juz amma together with certain targets for a certain time, then this will also entrust to every subject that Given at school. However, not all students are able to complete the memorization. When viewed from the academic ability, that is, by looking at the average value of mid rapot in each semester, the top ten rank almost has almost the same average value, and only have the difference of zero coma. Such as the data presented in Table 2 below.

Table 2. Average Mid-Semester Gasal Class III Score

Peringkat	Jumlah nilai	Rerata
1	1345	89.6667
2	1344	89.6000
3	1342	89.4667
4	1339	89.2667
5	1337	89.1333
6	1335	89.0000
7	1334	88.9333
8	1332	88.8000
9	1331	88.7333
10	1330	88.6667

Even those whose academic abilities beyond the top ten, up to the fifteenth, also have a high average score of 88.5; 88.4; etc. Children with the lowest academic ability, have a very large average range with the highest average score. It is this student whose rote ability can not reach the set target. Juz Amma is the content of the Quran in juz 30. Ahmad (2013), someone who has a good Quran recitation, then the learning achievement will increase. WS Winkel

expresses the learning achievement as a result of the learning process in the form of changes in the field of knowledge or experience, the field of skills, the field of attitudes and values of a person in learning. This means that the high level of a student's learning achievement is not at the high value earned, but on the changes within him.

Therefore, the teacher must understand the characteristics of the student. Perhaps not only students who have problems in their schools, but also the characteristics of each student in his class, both from academic, social, and economic conditions. In the case of students who have low academic ability, teachers will provide additional hours outside the school hours, for approximately 1.5 to 2 hours are held for three days in a week. Teachers will always monitor their progress. The added material is about the material that has been given in the class, so this extra hour just simply repeats the material already delivered by giving further practice questions in different forms.

The teacher understands the social and economic characteristics of the student through family data, ie from work and parent income, parental education, and with whom he lives. These conditions need to be understood by the teacher because the teacher must know everything that affects in learning. With such knowledge, the teacher will be able to take an appropriate action as a solution to solve the problems that occur in the students.

The management of the next class is to establish communication with the parent / guardian, through a liaison book. This liaison book serves as a communication medium between teacher and parent / guardian. The teacher will write something, especially the obligations that are not done by the students, such as not doing homework and not running the Dhuha prayer and Dhuhr prayer. After school, parents are expected to check what their children are doing during school, and then follow up in the form of a reprimand or advice to avoid it.

But it turns out, not all parents / guardians read and respond to the liaison as a form of their involvement in the education of their sons and daughters. This involvement is influenced by socioeconomic conditions, educational background, parental confidence level, and ethnicity. (Ratcliffe, 2006). Cole (2003) also identifies that the relationship between parent and school is a good predictor of student achievement. In this case, the parent / guardian has a position as a school partner. Houtenvillenand Conway (2008), shows that parental involvement has a positive influence on student achievement. When their parents, both mom and dad are involved in the day-to-day

activities, the students will be able to show a more solid academic activity. Parents can have a strong influence on various school outcomes, in terms of developing and maintaining positive motivation, completing homework, helping students with home studying tasks, good preparation in learning and most importantly, parents' beliefs, expectations and experiences (Afolabi, 2014; Munirwan, 2015; Palar & Kallo, 2015; Perriel, 2015; Usher & Kober, 2012). There are many ways in which parents engage in it, taking time to talk about activities at school, such as learning what it is today. Another involvement is to assist them in completing homework, engaging in school council election, helping schools manage academic standards, limiting time to watch TV shows in no more than two hours.

Parents feel the need to engage in the educational activities of their children so that they can encourage and encourage for the achievement of learning. Martin (2015) found some reasons why parents of minority ethnic groups were not involved in their children's educational activities, because of low levels of education, language difficulties, time constraints, and feeling undesirable.

2. Conclusion

Classroom management by Darul Falah SDIT teacher in class III is done by physical and non physical management. Physical management through seating arrangements, cleaning up classrooms, and arranging and setting up facilities, such as stationery, learning media, learning resources. Non-physical management through activities: student management through habituation, tadarus juz amma, understanding the characteristics of each student, from academic, social, and economic conditions, establishing relationships with parents / guardians, and creating learning conditions by habituation to be honest, confident , And discipline in doing the task

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BOCHE (BUILD OUR CHARACTER EDUCATION): APPLICATION ANDROID-BASED AS INNOVATIVE SOLUTIONS IN DEVELOPING CHARACTER EDUCATION OF THE YOUNG GENERATION

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Abstract

Character education is education which aims to improve the quality and results of education that leads to a good character and personality. Someone who has a good personality will positively impact to the surrounding environment. It was by observing the values in character education such as religious, responsibility, tolerance, and others. In Indonesia, the character education given at various level formal schools ranging from elementary school to middle school. For example there are books with characters education content in a variety of subjects at school. However, there are still many young people in Indonesia who are lacking in character education. Based on the data of KPAI that perpetrators of violence by young people has increased. By 2015 there are 79 cases of children who become perpetrators of violence. This suggests that an individual is not only influenced by the environment in the school, but also the environment outside of school. In the current era, the use of smartphones in the world. Android operating system users is increasing rapidly, especially for the younger generation. BOCHE is an Android-based application that contains about character education. There are two main content on this application namely learn and mini-games. Learn is content that contain material about the character education while mini-games is educational game which contain the values of character. BOCHE is an interactive application, easy to use, and consists of interesting content. The method of collecting data uses review of literature. This research aims to develop application and introduce the values of character education to the younger generation.

Keywords: Android, Application, Character Education, Innovative

1. Introduction

Education is a planned venture in which a person embodying the atmosphere of learning and the learning process to develop potential actively. The process of learning in education started from an early age. This can be seen by the existence of formal schools like the playground, primary or secondary school. Mentioned also that education is key to achieving a maturity.

Nowadays, education is closely related to the character of the person. The character of an individual formed since he was small due to the influence of genetics and environment. The process of the formation of character, whether realized or not will affect the way that looked at from an individual themselves in their surroundings and will be reflected in the daily behavior (Chrisiana W, 2005).

In Indonesia itself, the implementation of character education are still considered insufficient. Based on the data kpai.go.id that perpetrators of violence by young people has increased. By 2015 there are 79 cases of children

who become perpetrators of violence. Furthermore based on the police noted that the data from the entire report cases of violence, 30% of which were performed by the children, and the violence of 48% occurred in the school environment with varied motifs and levels (Hertinjung, 2013). This suggests that an individual is not only influenced by the environment in the school, but also the environment outside of school.

In the current era, the use of smartphones in Indonesia greatly improved especially on the Android operating system. Android is an open source operating system developed by Google Inc. use of Android devices itself consists of a wide range of ages, from children to adult societies. However, the development of the Android operating system still felt less than optimal, especially in educational applications. Based on the foregoing, the need for an Android-based education application which aims to develop character education for the younger generation in Indonesia.

2. Literature Review

Character Education

Character education is education which aims to improve the quality of organizing and educational outcomes that lead to the achievement of moral character's formation and began the students as a whole, integrated, and balanced. Character education is education that involves the cognitive aspects, feelings, and actions aimed at improving the quality of the process and results of the education by forming behavior of learners involves the noble (Muslich, 2011).

According to Judiani (2011:282), the function of education consists of three characters, namely as the development, improvement and filter. Development, i.e. the development of an individual to be personally well behaved, especially for individuals who already have the attitude and behaviour that reflects the character of the nation. Repair, namely, strengthening the participation of national education responsible for the development of potential learners are more dignified. Filters, namely to select their own nation's culture and the culture of other nations which do not comply with the values a dignified character.

Character education refers to a series of attitudes, motivation, behavior, sertaketerampilan. In this case, character education has the same meaning and essence with moral education and moral education. The goal is to form a personality, that it may be an individual that is good for the environment. As for the criteria of an individual that is good for the surrounding environment in general have a particular social values, which are heavily influenced by popular culture and her people (Mustopa et al, 2016).

In Indonesia today, the implementation of character education more done in a formal school. One is to insert the content of character education on the student Worksheet on certain subjects. It is judged less effective because of the content of character education in the book belum optimally serves the values of character education. With the development of today's digital media presence is indispensable, or the application that contains the values of character education.

Android

Android is an operating system developed by Google Inc. for linux-based mobile devices that includes an operating system, middleware and applications. Android provides an open platform for developers to create their

applications. Android is an operating system for smartphones and tablets. The operating system can be illustrated as a ' liaison ' between the device and the user, so the user can interact with the devicenya and run the applications available on the device. Android is an operating system which is open source. Called open source because the source code of the Android operating system can be viewed, downloaded, and modified freely. This makes it easy for the open source paradigm in the development of the Android technology because interested parties will contribute, both on the development of an application or operating system (Satyaputra et al, 2016).

In the mobile device (smartphone and android), the operating system that the current market is Android. According to market share data from Gartner Inc. in 2013, Android holds a 79% smartphone market share around the world. The second place is occupied by the iOS i.e. 14.2% and followed by the Windows Phone operating system that is 3.3%. Other than that based on data from idc.com by 2015, Android ranked first with percentage 82.8% market share around the world while the second position with iOS percentage 13.6% of the windows phone operating system and ranked third with percentage of 2.6%. This suggests that the development of the android operating system very rapidly, especially for the younger generation

App Inventor

App Inventor is a web-based application developed by Google (released December 15, 2010), where the research originally done by Google with the intention of as computing education on online development environment. App Inventor shaped Web application that allows users to create applications that are qualified and can be used on android-based mobile phone by understanding the concept of programming without having to master a programming language as a whole. It can be said that the App Inventor is an "application" to create Android applications with browser, all the projects that we create can be stored online that helps us to develop it gradually, without having to do some coding, but enough with drag and drop (Putra et al, 2016)

3. Data Analysis

Research Design

This research is a descriptive research. Descriptive research is one of the type of basic

research to describe phenomena, include non-fiction or fiction (Sukmadinata 2012:72). The purpose of this research is to make systematic, factual, accurate descriptive about facts and characteristic of population in the certain object. The steps in this research are (1) to identify the significant problem to be solved (2) to limit and formulate the problem (3) to determine purpose and objective of the research (4) to do review literature (4) to collect, organize, and analyse the data with relevant statistic technique (6) to make research report.

Subject Of The Study

Research publish kpai.go.id that perpetrators of violence by young people has increased. By 2015 there are 79 cases of children who become perpetrators of violence. Furthermore based on the police noted that the data from the entire report cases of violence, 30% of which were performed by the children, and the violence of 48% occurred in the school environment with varied motifs and levels. This suggests that the lack of character education on the young generation

Method Of Collecting Data

The method of collecting data uses review of literature. It is one of the method of collecting data with accumulating and analysing documents, includes written, pictures or electronic documents. The following figure is the review of literature of the study.

Steps Of The Study

Steps of the study from this research are planning, doing, and collecting data.

Planning

In this research, the research collects and learn literature books which relate to the problem. Those books are book of the character education, and Android application. Moreover, the researchers search data through internet and collect the related theories.

Doing

In this step, the data has been collected to be corpus. Then, the researcher do a electronic study to test the accurate of corpus. After the testing step done, its result become the main data.

Collecting Data

In this research, researchers arrange and process of main data, then clarify it based on the character of application. After that, the data is analysed further by identifying character value in the application including the mini-game. Then

it is connected with the young generations who faced gadget addicted.

4. Discussion

The result of this research is the Android-based application named BOCHE which are used in learning process for the young generation can build character value. According to Putra et al, by 2016, as for web-based applications that can be used to create android applications is app inventor. On the use of app inventor is required to login through your Google account users. The following is a flowchart from BOCHE application.

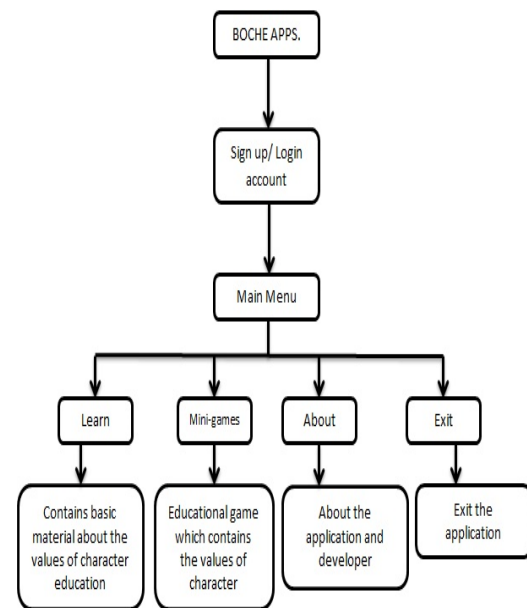


Figure 1. Flowchart of BOCHE application

Early Appearance Of The User Interface



Figure 2. User Interface Of BOCHE

In the first display of the user interface of the application, there is the option to create an account or log in first. In addition, on the bottom there is the language setting that can be adjusted.

Account Sign-In User Interface Overview



Figure 2. Account Sign-in User Interface

On the display of the sign-in user interface your account there are two required fields are the

username and password. After both of them filled out press OK to to the next part.

The Main Menu

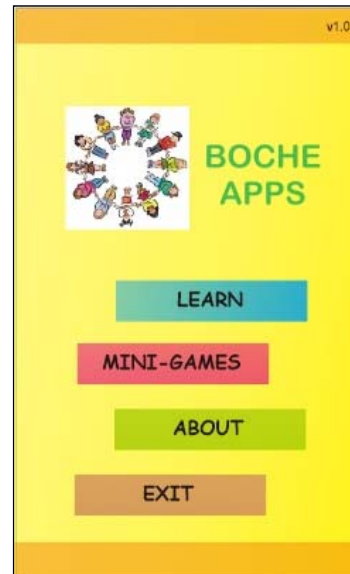


Figure 3. Main Menu Of Application

On the main Menu, there are five menu namely Learn, mini-games, about and Exit.

Learn

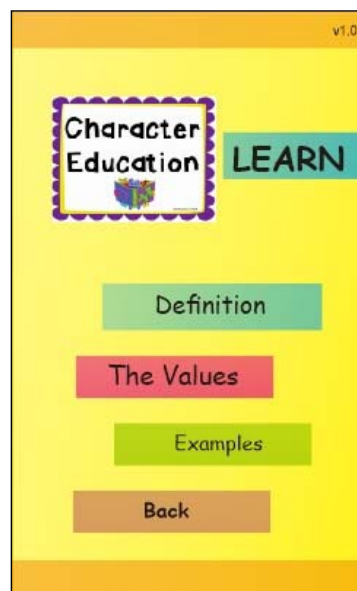


Figure 4. Learn Menu

On the menu made up of basic material about the character education. The definition is

the meaning of character education and also there are the values of character education. Based on

Juliani in 2010 there are 18 values of character education.

Table 1. The Values of Character Education and Description

No	Value	Description
1	Religious	Attitudes and behaviours that comply in carrying out the teachings of the religion adhered, tolerant of other faiths, execution and life get along well with other religions.
2	Honest	Behavior that is based on the effort of making himself as someone who can always be trusted in the word, action, and jobs.
3	Tolerance	Attitudes and actions that respect differences of religion, tribe, ethnicity, of opinions, attitudes, and actions of others who are different from themselves.
4	Discipline	Action which shows the behaviour of an orderly and obedient at various conditions and regulations.
5	Hard Work	Behavior that shows an earnest effort in overcoming the various barriers to learning and assignments, as well as a job as well as possible.
6	Creative	Thinking and doing something to make the way or new results from something that has been owned.
7	Standalone	Attitude and behaviour that is not easily depending on others to complete tasks.
8	Democratic	How to think, behave, and act the same rate that the rights and obligations of himself and others.
9	Curiosity	Attitudes and actions are always striving to know more profound and pervasive than anything he had learned, seen, and heard.
10	The Spirit Of The Nationality	Ways of thinking, acting, and insightful that puts the interests of the nation and the country above the interests of himself and his group.
11	Love The Motherland	The way of thinking, being, and doing that show of loyalty, awareness, and appreciation toward the language, the physical environment, social, culture, economy, and politics of the nation.
12	Appreciating The Achievements	Attitudes and actions that encourage him to produce something useful for the community, and recognizes, as well as respect for other people's success.
13	Friendly/Communicative	Action that shows a sense of love to talk, hang out, and working with others.
14	Love Peace	Attitudes, words, and actions that cause others to feel happy and secure over the presence of himself.
15	An Avid Reader	The custom of providing a time to read the various readings which give virtue for him.
16	Care For The Environment	Attitudes and actions that are always working to prevent damage to the surrounding natural environment, and developing efforts to repair the damage that has already occurred.
17	Social Care	Attitudes and actions that always want to give help to other people and communities in need.
18	Responsibility	Attitude and behavior of a person to perform the duties and obligations, which he should do, towards oneself, society, environment (natural, social and cultural), country and God.

In addition, there are examples menu which contains animated content or video that describes the behavior of the educational values of the character.

Mini-game

on the mini-games menu there are two educational games include Question & Quiz and Puzzle. Question & Quiz about the questions which related to character education. This includes questions concerning everyday events based on behavior, personality and social. Furthermore there is a puzzle game which contains the game images. Each game on mini-

games consist of several levels with different levels of difficulty. success in any game can be monitored through the score on each level.

5. Conclusion

BOCHE (Build Our Character Education) application that have applied in children learning can introduce the character education and build characteristic values. In addition with the advancement of technology, the use of this application on the Android operating system is an innovative solution to be used by younger generations.

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OPPORTUNITIES TO DEVELOP MOBILE LEARNING IN STATE UNIVERSITY OF MALANG

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Abstract

This article aims to explore the application of mobile learning (m-learning) in teaching at the college. M-learning is learning that promote the concept of flexibility. These advantages can overcome the disadvantages of electronic learning (e-learning) that while this is seen as an additional supplement to the regular teaching at the State University of Malang. This study uses a relatively risk analysis to see the trend of m-learning opportunities in the future. Its population is students of social studies education program, with a purposive sample technique to determine three of the eight classes. The result shows that smart phones are connected to the network has become part of everyday life. If it is removed when the learning takes place then it will limit one source of information that can be accessed by learners. Utilization as a controlled learning environment is an attempt to avoid deviations. Maximum utilization can make m-learning into a stretch zone, meaning they learn outside the comfort zone because they feel challenged and interested in learning offered. Increased the challenge in learning is necessary so that learners stay motivated. Then it would be wise if the smart phone is incorporated in the learning environment learners. But if this new learning environment is not managed properly will be a distraction during the learning process. Inability to manage this new learning environment will build the perception of educators that smart phones have only negative side during the learning process.

Keywords: m-learning, learning environment, stretch zones

1. Introduction

Personal Digital Assistants (PDAs) and smart phones evolve in tandem with advances in communications technology. Various types of use in education has been carried out, such as teaching the language to use short message services (Cavus, Nadire and Ibrahim, Dogan, 2008), vocabulary and practice questions and answers (Douglas, McConatha, et al., 2008), and a lot of experiential learning situations and problem solving.

Mobile devices (smart phones and PDAs) become much more affordable option than a desktop computer to meet the learning needs. Mobile learning or short term m-learning refers to the use of communication devices, such as cell phones, laptops, PDAs and tablet PC technology, in training, learning, and teaching. M-learning is a technique that uses mobile and wireless technology for education and training. M-learning allows educators to incorporate their learning experience in a collaborative environment (Farooq, U, et al. 2002). Today, the Internet and world wide web (www) has improved the learning activities. Providing a high level of interaction between student and teacher educators geographically separated. In fact, the Internet is not just a way to distribute and distributing knowledge and learning content, but

create a learning environment according to the needs of a modern, diverse learners where educators involve participants in various activities such as interaction, collaboration, conversation and problem solving (Kukulska-Hulme, Agnes. 2007). The Internet allows e-learning to be part of the art for distance education worldwide and m-learning will be the next generation of distance education (Sarrah, Mohamed, et al. 2012).

Mobile device that can be carried and used everywhere by learners access to knowledge anytime and anywhere. Now the use of smart phones as a means of learning started to become a lifestyle (Peter, Kristine. 2007). The main target of the next generation of education systems by using modern technology to provide new learning techniques, training and education that is accessible and available to everyone.

Although m-learning began to be used to support a variety of learning activities there is not much research done to know the requirements of the student or understand the types of mobile applications that need the students to use on their mobile devices and how software can be designed to support education in an educational environment (Singh, Devinder and Olive AB 2006).

State University of Malang in 2016 started working electronic educational calling, e-learning.

Education is packaged in a blended learning that combines the benefits of a combination of education-face and online model (Dwiyo. 2016). In practice, this education is still seen as an additional supplement. Limitations in terms of facilities, capabilities, and study habits of students made a lot of problems in implementation. On the basis of the rational then this article will discuss how the implementation, opportunities, and challenges of m-learning.

2. Method

This study used quantitative analysis techniques odds ratios. Odd ratio is a simple analysis of the results of the cross tabulation to calculate the probability of such events in the future (A Westergren et. Al. 2001). Interview techniques used to complete the description of data. Variables were measured using cross tabulation is (1) Perceptions of students using smart phones in the classroom, and (2) Is the use of smart phones can facilitate learning activities.

3. Results

Participants educator at the State University of Malang tendency to have a smart phone. The use of smart phones to facilitate their communication and information needs. The use of smart phones to search for information (source learning) is a new learning environment (Berge, Zane. 2007).

This new learning environment will intersect with the two aspects, namely educators and learners. Many educators in the State University of Malang who realize that the smart phone is a new learning environment. But only a few are entering the learning environment in the class. Poor understanding of the use of new technologies in the learning environment by learners coupled with the limitations of educators to maximize its potential to produce the perception that e-learning or m-learning is only supplements alone.

Table 1. A cross tabulation between perception using smart phones in education by educators and smart phones can facilitate the perception of education.

Agree Using smart phone (connected to the network) in Education	Can Facilitate Education		amount
	Yes	No	
Yes	16	5	21
No	22	7	29
	50		

Source: Processing of primary data in 2016

Table 2. Analysis of odds ratios

Risk Estimate	
Value	95% Confidence Interval

	Lower	Upper
Odds Ratio for smart phone (Yes / No)	1,018	, 273 3,796
For cohort Facility = Yes	1,004	, 733 1,376
For cohort Facility = No	, 986	, 363 2,684
N of Valid Cases	50	

Source: Processing of primary data in 2016

Intrepetasi results of the analysis above suggests that education that does not use a smart phone or use the same opportunity in facilitating student seeking information. They still rely on information from educators. Only a few models of education that requires them to find information in the classroom are able to make smart polsel into a learning environment for them.

This calculation technique is accurate enough to describe how participants' perceptions of educators on their smart phones and whether the facility mampu facilitate their learning activities. The reason is that the analysis is equally compare the proportion of each column of the matrix in the cross tabulations. So that not only illustrates the tendency but also able to generate predictions of opportunities this relationship between two variables in the future.

4. Discussion

Communication devices such as smart phones, laptops and PDAs with wireless network connection to facilitate m-learning. M-learning allows learners and educators to go beyond the traditional classroom. Communication devices provides the ability to increase flexibility and offer new interaction opportunities. Benefits of m-learning are as follows:

- Access to information anytime.
- Access anywhere for content.
- Support of distance education.
- Can improve participant-centered education educator.
- Supporting the differentiation of students' learning needs and personal education.
- to promote interaction among learners or educators by educators participants.
- Reduce the barriers of culture and communication.

M-learning is a natural extension of E-learning. One of the main benefits of m-learning is likely to increase the productivity of learners to make knowledge and education available anytime and anywhere, and allow it to participate in learning activities without restriction of place and time. M-learning performance support with easy access to information, which can directly affect the performance of educators participants

in the learning environment (Cramton, Ragusa, and Cavanagh, 2012).

M-learning to manage different learning needs, in which ideally is intended to allow learners to gain knowledge at their own pace. M-learning boost two-way interaction where it supports direct communication between learners and their educators. M-learning is also encouraged learners are embarrassed or hesitant to communicate more easily than in a classroom.

The above opportunities come together with challenges. At least the identification of external factors that the biggest obstacle is of rapid technological developments so difficult to offset by the development of education. Degget (1992) says that the world our children stay nati will change four times faster than the current school.

Internal factors consist of two variables, namely educators and learners. Here are descriptions of the challenges of the external factors.

Table 3. Challenges of m-learning from internal factors

No	Variable	Educator	Learners
1	Resources	Some learners still consider that the educator is the main source of information in learning Activities	Learners undergoing involution, meaning that they consider themselves already doing student center but what is done is still teacher center
2	Devices	Learners have not been able to maximize their device as a new learning environment, they are still waiting for instructions	Learners still lack motivate educators to use the new learning environment (devices connected to the Internet)

Source: Processing of primary data in 2016

The biggest challenge of the implementation of m-learning at the University of Malang is a rigid system. To-face meetings 16 times must be performed by learners in the classroom. Regulations provide opportunities for online classes twice. Odds are it while still seen as an extra supplement when learners can not go to class because of the additional task or duty.

Educator positions in m-learning as a facilitator between the information that must be

conveyed (Sulisworo, Dwi, et al. 2014). However, most learners have still have the perception that they are a major source of knowledge in learning activities. A similar perception is on the student. They still assume that the main source of information comes from educators.

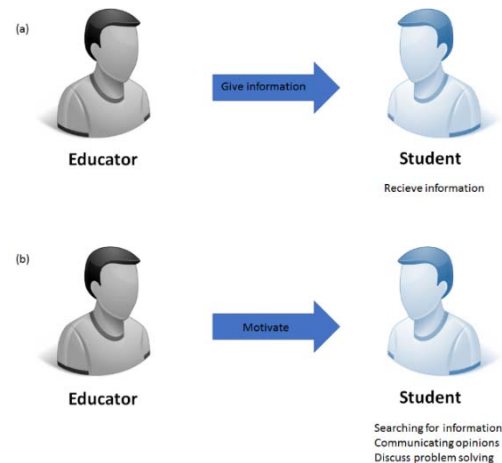


Figure 1. (a) The perception of the position of educator at the State University of Malang in m-learning, (b) The position of educators who should be in m-learning

Good facilitation in m-learning, educators must be actively involved in all developments student (Sturisno, Ashari and Eko Istiyanto, Jazi. 2009). Limited ability to access it will be an obstacle in education. Because of the limitations of m-learning was finally brought into the regular classroom as an additional supplement. Some educators were able to use to facilitate the characters of this instant generation (Purnomo et al. 2016). But that can not maximize the potential of these devices that they use would be a nuisance.

Educator participants' perceptions of the devices they have still limited to the means of communication. That functionality is already well understood and fluent they use to interact with people far away, and it becomes addictive. Many who use the device interaction when learning takes place. This is what being a bully and a compelling reason for educators to prohibit use of devices for learning.

M-learning is an opportunity to motivate learners that support learning with waste their time, anywhere and anytime. The State University of Malang has been facilitated for two meetings using the online system. However, the limited ability of educators manage m-learning classes make it just be a supplement in a credible

form of learning. In fact, if it can be maximized device connected to the Internet network can be a new learning environment that supports student education center.

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APPLICATION OF CLASSICAL BASIC SINGING TECHNIQUES ON IMPROVING THE PERFORMANCE OF FRANZ XAVIER'S CHURCH PSALMIST YOGYAKARTA

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Abstract

The psalms is one of the responsorial song types on Catholic Church ritual. It is usually sung by one of the choir singer chosen by the choristers or merely by the choir conductor. The actual background of this research is found in the resemblance situation faced by the classical singer that the psalmist have to make a solo singing performance in front of public. The research is based on the findings of weekly routine cases in performing the psalm. As the psalmist is freely chosen by the leader of the choir, they are usually lacking of preparation. The common constraints happened in their services are related to the problem of striking the right notes, breathy and out of tune voice, and nervous feeling caused by unpredictable situation as the psalmist made different tempo preparation from the accompanist or organist. Subject on this research are restricted on the psalmist members, men or women, who has passed their puberty period and has an adult voice character. The developmental approach in a one by one direction method is chosen to make a betterment concept in understanding their performing situation. During the research period, the selected psalmists were introduced to the basic concept of vocal cord mechanism, healthy supported breathing, and basic knowledge of music theory such as pitch, keys, rhythm, and voice range. The important improvements found in this research are found on the comfort feeling to execute the high notes that never trained before, understanding to make a proportional warming up and elaborating the detailed elements of the psalms music to overcome their nervous and strengthen their confidence

Keywords: psalmist, singing, techniques, improvement

1. Introduction

The Eucharist Mass is a worship of the Catholic Church liturgy containing at least 12 songs or hymns. Among the twelve songs, there are certain part that is sung in a solo voice by liturgical officers called the psalmist. The song is commonly referred to Responsorial Psalm and Alleluia. Martasudjita and Kristanto in their book entitled *A Guide to Choose The Liturgical Songs* stated that the psalmist sing or recite psalms as the response to the reading of the scripture. He can also sing the verse as an introduction to the gospel. (2007: 72)

MINGGU BIASA XXIV

MAZMUR 51: 3-4, 12-13, 17, 19; Ul: Luk 15: 18

Unggan 812

2 3 4 5 | 6 . 4 3 | 2 . . | 2 3 4 5 | 6 . 7 | 1 | 6 .
Ka-sih-an-lah, ya Tu-han, Kaulah pengampun yangra-him,
6 7 | 1 . 4 5 | 6 . 5 5 | 4 3 2 . |
dan be-las - ka-sih-Mu tak ter-hing-ga.

Mazmur: oleh pemazmur

2 3 4 . 3 2 |
1. Ka-sih-an-lah aku, ya Allah, menurut kasih seti-a - Mu,
4 5 6 . 7 1 | 6 .
me-nu-rut besarnya rahmat-Mu hapuskanlah pelang-gar-an-ku.
5 4 7 1 . 6 5 6 .
Bersih-kan-lah aku seluruhnya dari kesa-lah-an-ku,
5 . dan tahirkanlah aku dari do-sa-ku |

Figure 1. Antiphon and Verses of Responsorial Psalms

The authors of the book further stated that the psalmist should have to prepare himself well, to understand the content, form, and the atmosphere of psalms so that he can carry it well. Someone who served as the psalmist is expected to at least have a fairly loud voice and can sing or recite the chorus part and the verses of the psalm response steadily, loud enough and clear in front of the parish members.

The psalmist role is leading the parish people to provide response on the reading of first scripture. The most perfect place to bring the responsorial psalm was on the podium, however, if it is not available pulpit then psalmist is placed at appropriate place that can be seen by people (Martasudjita & Kristanto; 2007: 72) This role given some consequences, namely that as an officer of the liturgy who was in charge of leading the response to the reading of the holy Bible in front of people, he or she at least master the tones of the psalm that will be imitated again by the people and has enough self-confidence to sing it.

The real situation that happened on that liturgical duty is that the psalmist officers generally chosen from members of the choir of a specific community that get scheduled on weekly

Mass. The member chosen to be the psalmist are generally appointed by the choir leader who at least have to know and consider the singing capacity of the selected person. This member at least have enough courage to sing in front of people. Limited knowledge and experience in solo singing activity coupled with the lack of preparation caused some unexpected moments such as missing to strike the right notes, the voice becomes hoarse or shaking, even in a certain moments, the psalmist then stopped and resumed with different notes blindly. Observations of the psalmist tasks in this research conducted at the Catholic Church of St. Franz Xavier Loji Kidul, Yogyakarta. Initial findings indicate that the church was located in the center of the city and has the quite large number of potential psalmist. However, this parish requires specific treatment on the issues related to the preparation and direction of existing psalmists and regeneration of the psalmist officers who still need a lot of experience to make a well prepared service. Based on the above facts, the issues examined by this study are related to three aspects. The first is related to the singing techniques constraints faced by the psalmist St. Franz Xavier Loji Kidul in Yogyakarta. The second is related to the anticipation to overcome the technical obstacles of the psalmist's vocals both practically and in a longer period of time. The third is related to the development of musical competence carried out in stages to support the optimization of psalmist service.

2. Research Methods

This research is based on the problems encountered by the psalmist of St. Franz Xavier Catholic Church Kidul Loji Yogyakarta and used the action research approach. This study will produce research data that can be used for practical purposes, namely:

- a. to determine the current condition of psalmist's activities in Catholic Church St. Franz Xavier Kidul Loji,
- b. 2. to determine the form of vocal effective treatment for the psalmist Catholic Church St. Franz Xavier Loji Kidul,
- c. 3. and to determine the impact of the provision of musical practice in a structured knowledge in enhancing the potential of the psalmist musicality. The population of research are the selected psalmists who are members of the Church of St. Franz Xavier Kidul Loji. The detailed singing problems faced by the psalmist are gathered from the documentation of the services and individual notes from the psalmist group

discussions. The developmental research type from Watanabe's (1967: 5) is used as the basic method of research. The selected psalmists (6-7 persons over at least 30 members) were given the direction to improve their singing abilities through a series of activities in a structured observation and practice singing. The method are made in an action research scheme described by Paul Suparno in his book entitled *Action Research for Teachers and Educators* (2008: 4-5) He noted that some researchers like Kemmis and Mc Taggart explains the type of research acts as a form of collective selfreflection which in this case is done to improve singing quality of the psalmist.

Variables that will be reviewed in this study were the basic knowledge of reviewing the psalm, the singing constraints encountered by the participants and the impact of the given solution on the psalmist services.

This research was conducted through two phases: observation of current conditions experienced by the psalmist and make the initial documentation and structured evaluation phase conducted by researcher together with the selected participant. At this stage of the research, the gradual evaluation are made to determine the constraints faced by each participant. This is related to the betterment of singing practice and systematically efforts to follow up the particular cases of singing. The conclusion carried out within the framework of the psalmist improvement and preparation to anticipate of the next service after they underwent a series of evaluations and technical briefing of singing.

The data analysis are performed by the practice achievements made by the psalmist. The assessment of learning outcomes and impression that is expressed by the psalmist during the process of data collection will be taken into consideration in the process of provision of material relating to the next service tasks.

3. Singing techniques constraints of Franz Xavier's Church Psalmist Yogyakarta

The psalmist is the person chosen from the choir members that were given additional duty. The involvement as a psalmist is based on the observation that is generally done by choir conductor who then see their potential to be able to sing in solo style. Their selection is based on their ability to strike the right note as they sing in the choir. The experience as soloist could even say very minimal because in general, the songs

used and practiced in a choir are rarely using the solo part.

The constraints that commonly occurred to the psalmist are associated with minimum knowledge and concern to the musical signs that are supposed to be deeply comprehend. The structure of the psalm is a song with the numbers of bars between 2-16 and has a catchy melodic pattern to be sung. This Psalm is using certain scale and is specifically arranged with a certain melodic pattern. Some of them are made based on traditional melodic patterns that are used in a specific area in Indonesia. The others are using a pattern that refers to the melodic scales of the Gregorian chants. After the psalmist sang the refrain, immediately that part is repeated by the congregation. The psalmist then would sing the verses that generally have a long sentences written between 2-4 lines, but generally ranges from 4 lines. After each verse, the chorus would be sung back together with the congregation. The number of verses that are provided in a psalm are four verses. But at this Frans Xavier's Church,

The Church Ministry generally agreed that the psalmist would only sing three verses of the entire paragraph that has been provided in the book of psalms.

The real situation shows that the songs sung by the psalmist indeed are relatively easier when compared to the songs used in worship. The relatively short refrain lead to a habituation that this song is simply prepared only if the psalmist was going to carry out their duties. It can be said that the psalmist rarely give special attention to the detail of the psalm parts.

Most of the psalmist are rarely doing the preparation exercise with the organist or accompanist because the song is relatively easy and the tone is not too difficult to be sight read. However, there are occurrences showing that there are several things that are not expected to happen:

- a. The psalmist rarely concerned the detail of psalm to be expressed. The sentence is cutted not in the place where it should be.
- b. Some of the psalmist with limited preparation are missing to strike the right notes on certain places. This leads to a situation that can not be anticipated quickly by an accompanist who then have no choice instead to follow the new tone made by the psalmist. This situation sometimes lowered the level of confidence of the Psalmist.
- c. The limited time to meet and to make a proper preparation with an accompanist tend to lead the psalmist did their own personal preparation with limited control of pitch.

This causes discrepancies of tempo that often can not be easily anticipated between the psalmist and accompanist.

- d. The psalm which prepared with quick tempo by the psalmist can not be adjust immediately as the accompanist make it in a slower tempo in his preparation. The result is the psalm carried out of context in according to the message to be conveyed in.
- e. A common obstacle faced by the psalmist is that he often felt the introduction tone of the accompaniment was too high to be attacked. This case adds to the list of anticipation that must be faced by the psalmist. Some parts of the refrain can not be performed perfectly and the psalmist should recite psalm with an uncomfortable feeling.
- f. The psalmist are the ordinary person that does not have sufficient technical singing skill. They almost never trained their breathing control, even it can be said that they do not care about these things when bringing the psalm.
- g. They have minimum knowledge of coordinating of the muscles of the vocal cord. They are almost never realize to make a preparation as a soloist. It can be said that they are only singing psalm based on the knowledge that they can understand. Besides, they also never get a lesson about the use of imagination in singing psalms.

4. Discussions

The psalmist in general can actually be seen as a soloist with the capacity to chant the responsorial psalm. They are mostly taken from members of the choir who has natural singing talent and courage to appear in the podium. The minimum knowledge of music and vocal training did not deter them to perform the singing service because inevitably they have to be ready when they got the turn to be a

psalmist. The psalmist at St. Franz Xavier Kidul Loji Yogyakarta can be considered as the beginner in learning singing techniques so that researcher could make observations about various vocal cases they faced in performing the psalm.

Richard R. Terry in his book entitled *Catholic Church Music* reviews about two main things pertaining to the church music. The things are about the music itself and how to deliver the music. (1907: 81) The review relates to customs of the liturgical officers in managing the church music and bringing the music to accompany the mass. The psalmist as an active actors of church

music who are familiar with a routine schedule feel that the music activities they do in church is something that is done automatically for they already done so many times. It often happens that their service is done without preparation at all and they do not feel burdened at all with this. This routine activities blunting their musical sensibilities against the executions to strike right tone, and even they do not pay attention seriously to this musical matters. The service without preparation means that they just rely on custom music / singing without proper evaluation. Besides that, the lack of singing exercise becomes one problem. The tone adjustment with accompanist even conducted shortly before advancing to the pulpit.

To be the psalmist becomes tantamount to build a skill. Meanwhile on the other hand the skill that built is related to coordinate the muscles of the vocal cords work and even the muscles of the brain. Being the psalmist is as well as build an awareness that good sound is produced from the right imagination about striking a tone that was delivered. Many little things are taken into account in establishing the imagination like setting deep breath in carrying carries a long sentence would be an important factor in providing the execution of sound which are desired.

Nancy Telfer an expert vocal of America reiterated a statement in early writings on the successful warming up in singing. She stated that Each voice is unique: a gift to explore and develop (Telfer, 1995: 3) It is confirmed that the learning vocal for any reasons included in shaping the voice of the psalmist basically refers to the uniqueness of each individual. Therefore paying attention on every aspect of singing become the primary focus. Clippinger in his book entitled *The Clippinger Class Method of Voice Culture* (1932: 1) also confirmed that the development of the singer's voice can be categorized into two main topics, namely:

- a. Development of a musical mentality
- b. Development of a correct setting of vocal instrument.

Singing in front of crowds like done by the psalmist in front of the parish members can be said is a musical show that needs to be prepared. Basically, the psalmist has had a very appropriate place to learn their skills to perform in public space. The routine service schedules make them see the inappropriateness of shooting the tone, singing with minimum expression and a variety of unpreparedness which they do become a common practice because they feel they are professional musician. This way of thinking

requires a positive suggestion and actions in order to demonstrate their ability to achieve their optimum capacity in giving their best performance to serve the people.

Singing activities as a skill that is ultimately form a habit so that the trained voice become ready to use and meet the comfort and pleasant criteria. Maribeth Bunch Dayme, one of vocal expert who wrote the book entitled *Dynamics of the Singing Voice* (2009: 31-34) emphasize a few things that need to be known by a singer in bringing their voices. They are:

- a. Coordination

The ability of coordination presupposes that a singer can manage their physiological factors, mental and emotional perfectly.

- b. Spontaneity

The ability of the singers spontaneity is determined by the nature of which is formed during their practice. If this thing is associated with the psalmist then it concerns with the best singing preparation and the thorough understanding of the contents of the responsorial psalm.

- c. The artistic dimension The development of the ability to sing psalms sparked a passion to love singing activities and dedicate more time to put singing activities into the main priority.

The singing skill make them possible in allowing them to see their own potential from different sides.

Singing requires a wide range of knowledge about musicianship, song style, knowledge of the language, the self development ability and communication skills. Being aware of the capabilities they can best develop in singing could grow the spirit to explore the potential of their singing ability and give their best efforts in every opportunity.

5. Anticipation of the constraints faced by the Psalmist

Anticipation of the constraints faced by the psalmist is to provide an overview of the technical challenges of singing that are contained in each psalm. However despite the psalm refrain that being sung every week weekly and quite well memorised, interpretation of the psalm is not always easily done by the Psalmist itself. They always find that every psalm that they bring is like bringing a new song that needs to be given some information that can be used as a guide to

them in anticipation of psalms they will bring. Here are the things that becomes a thought to anticipate the various technical constraints faced psalmist:

- a. Before giving exposure to the anticipation that can be done by the psalmist, first the meeting is held in order to discuss the background or motivation that lead them into a psalmist activities. The initial intention or motivation to become a psalmist needs to know and contemplate first because it can serve as the basis for developing the desire of the participants to sing better.
- b. The beginning of the meeting is used to provide an overview of the unique sounds of the typical human-related activities of singing. One possible way to show the uniqueness of these is through the video content from Youtube website provides a description of an ability to make voice that can be created by humans through their vocal cords. These videos are:
 - 1) Video Greg Pritchard of Britain's Got Talents



Figure 2. Greg Pritchard has the *counter tenor* voice

(His voice has a female character)

<https://www.youtube.com/watch?v=P-ZjOEk4-dI>

- 2) Video Female to male singing voice. (source: b.

<https://www.youtube.com/watch?v=bKMWC9ow22U>

- 3) Video Choir Advertisement of Honda Civic Source: <https://www.youtube.com/watch?v=gjyWP2LfbyQ>

It becomes a trigger for respondents to open up to the various challenges to be faced in the process of establishing them as the psalmist.

- c. The beginner participants have a similar experience to their voices. It can be seen as they given the opportunity to sing solo for the first time. Usually they felt insecure and

eventually they stopped singing with the reason "I can not sing". A description of the mentally blocked is used to illustrate the challenge for the participants because in reality they are indeed have minimum rehearsal experiences as the psalmist and ask them to think that they could sing but just have not been trained properly.

- d. Participants are invited to observe and search carefully any information contained in each

c. psalm and shows that every song is created using a range of common ambitus of human voice without any special training. They briefed that the discomfort feeling occurred when singing the psalm and in certain occasions is common. The participants are given an explanation of the range of human voice that is used as a material for composing psalms.

6. The Development of Psalmist's Musicianship

The lack of technical information and guidance to the tasks and constraints of becoming a psalmist need an activities that requires a continuous awareness of the importance of singing preparations and performance of the vocal organs

d. in the process of singing. This fact inspired to give sufficient knowledge of music to the psalmist and solutions that can be done as a long term anticipation. These activities considering the power of thinking logically and the priority to give most needed technical solution required by the psalmist. Some activities were then carried out as follows:

accordance with the verses mentioned in the psalm.

Settling habits to repeat the exercises and performed with disciplines until the participants have a confidence in bringing a psalm. This is related to the mastery of lyrics that are used in the melody. This is requiring the adaptation process and would not be possible without a discipline of thought regarding the interpretation and application to the song while singing. The participants are presented a reflection on the performance of the human body. Participants are reminded to be aware of their growth process that has been developed from infancy until now. Participants are reminded that the body created is not without limitations. The philosophy

collecting little by little is very fitting to explain this phenomenon. Participants were invited to become increasingly sensitive to the needs of his own body and be wise with regular exercise so as to eat. The vocal exercises need to be thinking as something that can be done only by a process even though it requires a relatively long period of time and the psalmist should not feel that this activities weighing his mind.

Participants are reminded that the performance of the organs used to sing can not be touched or modified because it lies in the human throat. Participants are given the awareness that the vocal cord they used to sing is a muscle that needs time in adjusting its performance to produce the desired sound. Besides, the constraints that might occur in the process of the exercise will be easily solved with a wide range of ideas that are more imaginative. Some things that can be done in this way is when the participant will shoot a high note but has a voice that broke in the middle range of his register. Participants need to be explained about the strategy to manage the inconvenience by the exercise that serves to establish a comfortable sound based on what can be imagined through the sound produced.

Convenience needed in shaping the beautiful sound with joyful and comfortable feeling. All they have to do is to imagine things that are done by the body in achieving a balance as when someone requires more oxygen as someone do their yawning.

Free of tension is become the main goal of the training classical singing style, so that the a. Participants were introduced to the signs of the psalmist need to consider that sing a new song is as music that will be used to help them to express samel as make the song that initially could not be and interpret the psalm tune. The explanation sung comfortably, can be later performed in very easy includes the scales used in the psalm, the and convenient way of singing. It can be said that number of measures, time signatures, melody the psalmist has to make their exercises to achieve and tessituras arrangement in relation to the the level of spontaneous. (Singer can do so at any interpretation of the production of sound time even if in certain circumstances do not allow produced by the psalmist. This is done in

for adequate warming up previously). The psalmist is suggested to perform muscle stretching through humming and singing activity with a soft voice first. The muscles have to be relaxed first before they start to sing the psalm.

7. Conclusion

The psalmist as a singer has the responsibility to prepare themselves to lead the people in giving a responsorial psalm on a Catholic Mass. The relatively simple song form of a psalm, the routine services schedules of the psalmist, and the lack of preparation with the accompanist become the trigger to uncontrollable condition for the flourishing different expression between the psalmist and the accompanist. The technical constraints that arise from lacking preparation namely error-reading of the scores, feeling nervous as the psalmist has to make adaptation to a high register range heard instantly from the accompanist that goes beyond his preparation, cutting the sentence in wrong place because of lack in breathing control, and the tempo that isn't fit with the expression of the words or sentences. The solution given in this research are mainly concerned with the formation of a complete self-image of the position as solo singer, identify strengths and weaknesses when anticipating the routine services schedule as a psalmist and take a close look on musical aspects which are important for generating the optimum image of the psalm. Singing practice are developed to form good habits by analyzing the psalms to be sung, realizing the vocal cord muscle mechanism using imagination and the forming an idea that singing is a activity that requires proper preparation and patience to obtain the best results. The simple look-like song form element inherent in the responsorial psalm requires hard work in preparation that is not as simple as it look. Comfort feeling in singing, good control breathing, and the development of appropriate imagination to build the comfort feeling became the keys to make betterment in singing the psalms. The singing technique material and the basic music theory need to be applied and to be comprehend continuously over certain time in order to achieve the best quality of the psalms recitation. The main goal is to arouse the people to be actively involved in the eucharist.

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THE ALLEVIATION OF POVERTY IN THE CITY OF SEMARANG WITH SUSTAINABLE ELEMENTS OF EMPOWERMENT PROGRAMS

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Abstract

There have been so many efforts that have been done to reduce poverty. The existence of economic turmoil, such as work termination and the rising fuel prices and electricity would quickly raise up poverty. High economic growth often ignores the condition of the poor and marginalized people. Therefore, the empowerment programs can play an important role in alleviating poverty. The research question is how the poverty alleviation programs which have already met sustainable elements in Semarang are. This qualitative study used descriptive qualitative method that aims to understand the social phenomenon from the viewpoint or perspective of the participants. This research takes the view that since people are instruments, beneficiaries as well as victims of development, their active involvement in the process is the key to any sustainable efforts. In that way, without the continuous improvement of the welfare of the people, the empowerment programs will not succeed. This research is also supposed to identify the sustainable empowerment programs related to poverty reduction, as well as develop a self-helping program for poverty alleviation. The impact of this program implementation is certainly expected to increase public welfare, especially poor people. Thus required the existence of this study to see the effects of the implementation of poverty reduction programs for poor people in Semarang.

Keywords: Empowerment, poverty, alleviation, sustainable. Introduction

1. Introduction

Indonesia is a huge country, divided with Islands, and with a diversity of languages, religions, and culture and with a wide geographical location. The country faces a lot of the development challenges which include poverty and incompetent human resources where the majority of the people are poor. This makes education and poverty alleviation as the main of the national development agendas. To eliminate poverty, empowerment programs have been in place for a number of years. However, despite the successful stories on empowerment programs as one way to alleviate poverty, studies continue to show that poverty is still a big problem for the developing world. The rate at which it affects the poor is alarming. (Hadi, R., Wahyudin, U., Ardiwinata, J. S., & Abdu, W. J. (2015).

Poverty is a multi dimensional phenomenon encompassing a person's economic, social, health, education, security, and capacity. Alleviating poverty is a complicated business.

Therefore, poverty is not only a lack of economic resources but also lack of access to

services and basic capacity to participate effectively in society. In other words, poverty is a violation of human dignity with a denial of choices and opportunities. The inability to access credit is also a cause of poverty. (Tavanti, M. (2013).

Poverty is a social-economic phenomenon in which a section of society is unable to fulfill even its basic necessities of life. The minimum needs are food, clothing, housing, education and other basic minimum human needs. Humanity faces pains and miseries if it does not attain a subsistence level of such needs. Poverty is about denial of opportunities and fulfilment of human potential. Poverty and inequality are closely related, and inequality appears to have been on the rise worldwide in recent decades at both national and international levels. (Kumari, L. (2013)

There are many factors that influence the poverty in our society. Major determinants of poverty are lack of income and purchasing power attributable to lack of productive employment and considerable underemployment, inadequacy of infrastructure, affecting the quality of life and employability etc. Empowerment programs have

a significant role in assisting the rural poor to break out of the vicious circle of poverty. A major source of the strength of empowerment programs comes from their idealism and values, which include a strong spirit of volunteerism and independence. Most empowerment programs consider empowerment of the poor as their major goal and objective. The empowerment can be as basic as enabling groups to improve their conditions through socio-economic development programmes or projects. (Devi, R. U. (2013)

"Empowerment is the ownership of the development process by the people themselves. All development stakeholders – government, private sector, banks, NGOs and other members of civil society – must recognize the capacity of the poor to develop themselves as free, responsible and self-reliant groups and communities and create the environment for individuals to come together and organize themselves." (Devi, R. U. (2013)

Empowerment literally means making someone powerful; facilitating the weak to attain strength, enabling someone to confront injustice and oppression. Empowerment is a process which makes the powerless to acquire and control over power through awareness, capacity building, participation in decision making, acquiring information, attaining confidence and self employment.

SHG (Self Help Groups) is a very good idea and this encourages poor people to save small amounts and use money cautiously in emergencies like unexpected health problems, natural calamities etc. They deposit money into bank and they get interest for that money. Whenever they take loan they are charged at a very low rate than interest given on deposit amount (Jain, D., & Jain, B. (2012)

The research question in this paper is how the poverty alleviation programs which have already met sustainable elements in Semarang are.

2. Method

The problem of poverty is multi-dimensional so it is not quite solved simply by granting subsidies or cash assistance to the poor. One of the best ways to come out of poverty is the empowerment of self. Therefore, the general purpose of this research is to develop a model of self-empowerment or self-helping program to come out of poverty.

This qualitative study used descriptive qualitative method that aims to understand the social phenomenon from the viewpoint or perspective of the participants. This research

takes the view that since people are instruments, beneficiaries as well as victims of development, their active involvement in the process is the key to any sustainable efforts.

In order to obtain the required data, this study used some data collecting technique, that is:

1) Documentation. This method is used to map the current conditions of poverty, projections and identify the various programs that have been undertaken by the government to reduce poverty.

2) Interviews (face to face interview). Interviews is used to obtain data from the primary target group of the positive characters, economic potency, cultural (customs), local wisdom as well as their expectations.

3. Results

In this study, it can be found out that there are five empowerment programs that are considered good to be implemented in Semarang. The first program is called PNPM-MP program. The second is PNPM Mandiri, the third is Gerdu Kempling as Poverty Alleviation program. The fourth is Model of Poverty Alleviation for Coastal Community and the fifth is the model of non formal education based on local potential. In the implementation of the first program that is the implementation of PNPM-MP in Semarang is influenced by the aspects of supporting the implementation, and also the aspects that can become the stumbling blocks for the implementation of PNPM-MP in Semarang. Besides that, there are also the formulation of the institutions PNPM-MP that gives the contribution to the successful implementation of the program. Eventhough the program is successful there are some weaknesses that should be considered so that those can be the evaluation for the improvement of the ongoing program.

The second empowerment program that is implemented in Semarang is PNPM Mandiri in Kelurahan Mangunsari. This program is implemented to give the solution of some problems in the area of social, health, education, and housing complex, environment, and also economics. The first step of the implementation program is by identifying the characteristics of poverty in Kelurahan Mangunsari. After that it is decided the program of PJP Pronangkis that is the medium term of poverty alleviation. After the program is implemented, it is necessary to evaluate the outcome of PNMP effectiveness to give the poverty mobility especially in Kelurahan Mangunsari. In order to give better evaluation for the program implementation, it is important to

find out the supporting factors and the stumbling blocks during the implementation of the program.

The third empowerment program is Gerdu Kempling as the poverty alleviation program in Kota Semarang. This program is trying to cover five areas to eliminate poverty in Semarang. Those are economics, infrastructure, health, environment, and education. In the economics empowerment, the program should be able to see the potential and the problems in the area that becomes the target of program contribution so that there will be no unhealthy competition and the most effective subsidy is the help of marketing the products. It is important to make sure that the contribution of goods or products are in good quality so that the poor people will not spend lots of money for the maintenance. On the other hands, at the point of infrastructure development, it is very crucial to be considered that the materials used are in good quality so that it can last longer. And most importantly this program is very valuable for those who especially live in remote areas. Then, in the health section, the program of *Jamkesmas* for the poor society in which people can get the health facility freely should be sustainably held for them. This program is very important as it gives direct effect on the prosperity of the poor people. For the environment program, the programs that are related to the preservation of the nature ecosystem and environment should be more added because it gives great influence on the physical quality of the society environment. And for the last program that is education, it is very important to upgrade the programs that have relation with the development of skills of the job applicants so that they can have more opportunity to survive and get better jobs.

The fourth empowerment program that is implemented to eliminate poverty is model of poverty alleviation for coastal community. The first thing that needs to consider is the aims of the program especially for the long terms. Those are the development of society independence, the development of coastal society ability, and the development of partnership. The second thing to consider is the synergy of the general structure of organisation that has responsibility on the successful program. Those are central government, local government, village assistant, cooperative, and bank executor. Furthermore, there should be the strategy for strengthening the cooperative institution that is based on the optimalism of roles and performance of cooperative institution, the expansion of institution and entrepreneurship networking, and the roles of cooperative for the fishermen in coastal area.

The last empowerment program is model of non formal education based on local potential that is hoped to be able to alleviate poverty in Semarang. In order to get the ideal model of non formal education that is able to empower the poor society and able to alleviate poverty, there must be approach that should be implemented well. Those approach are community organization, participatory approaches, and education for justice approach. If the model implemented, it has to be sure that the model has the characteristics of need oriented, endogenous, self reliant, ecologically sound, and based on structural transformation. Moreover, it is important to be considered that there are five basic strategy of non formal education that can be used to empower poor people. Those are humanistic approach, participatory approach, collaborative approach, continuing approach, and cultural approach.

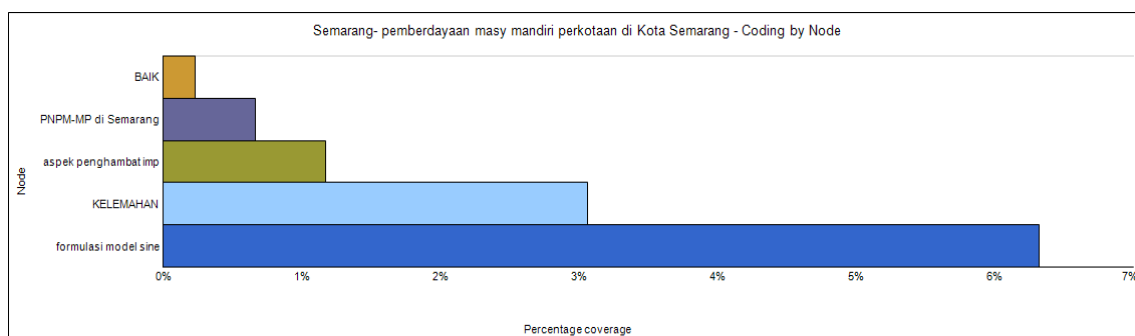


Figure 1. PNPM MP in Semarang

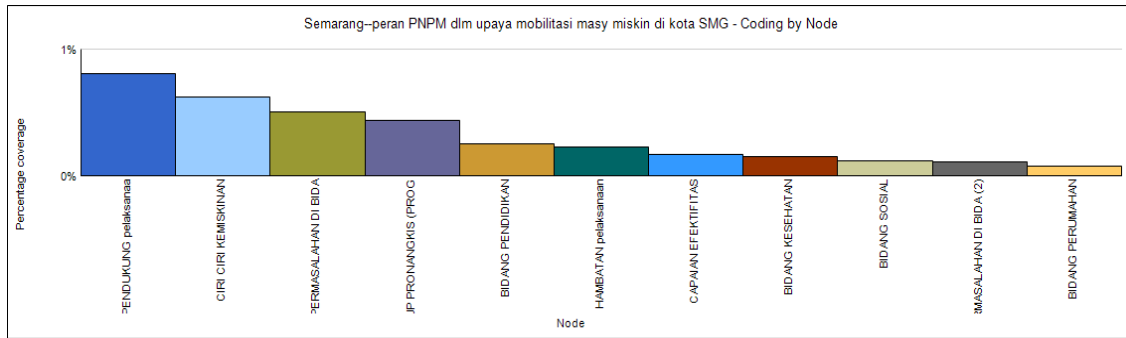


Figure 2. PNPM Mandiri

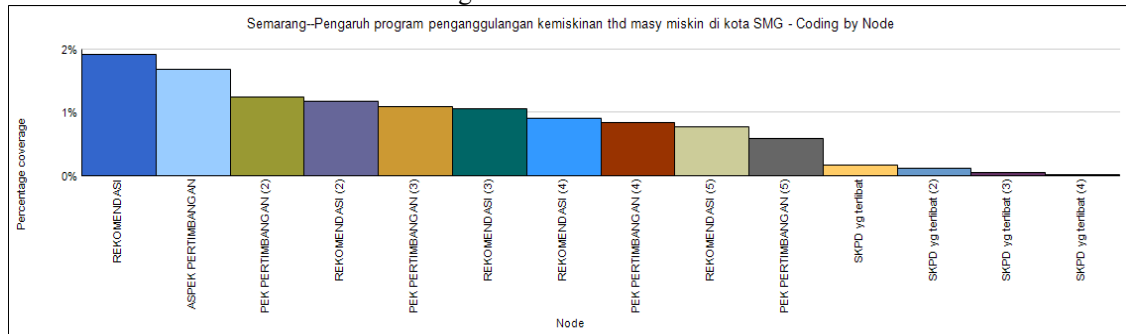


Figure 3. Gerdu Kempling as Poverty Alleviation Program

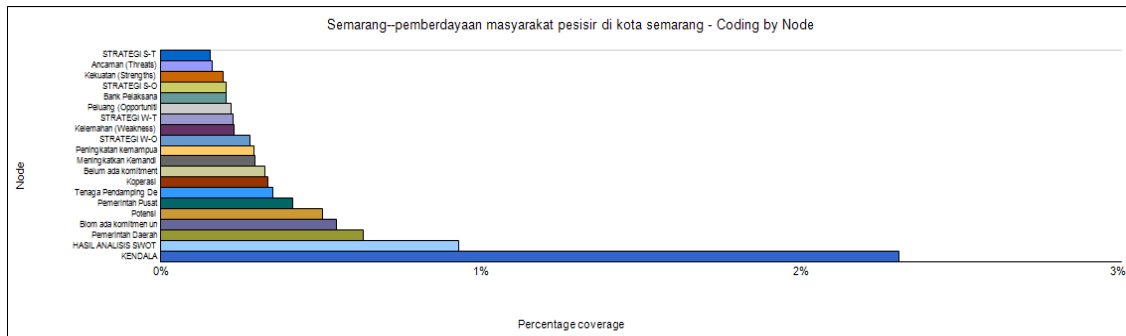


Figure 4. Model of Poverty Alleviation for Coastal Community

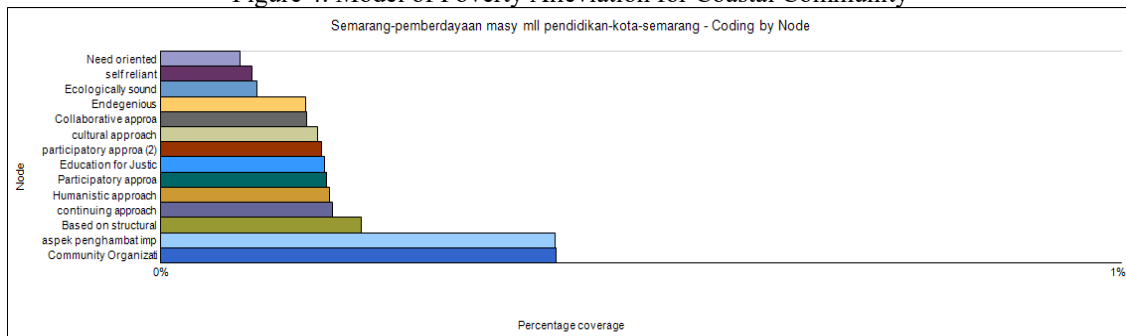


Figure 5. Model of non formal education based on local potential

In the implementation of empowerment programs, it is very important to make the use of humanistic approach where the society, especially the poor people is considered as the subject of the development and they are acknowledged to have the potential to develop and grow in order to improve their own self development. On the other hand, the participatory approach means that society, the related institution, and or community are

involved in the management and the implementation of society empowerment. Sustainable element in the implementation of empowerment programs mean that it is sustainably done where there is cadre coaching that has become the most important thing. It is also important to include collaborative approach in the implementation of society empowerment where there is the cooperation with the other stakeholders that are integrated, coordinated and

synergized. Most importantly, there should be cultural approach where there is the appreciation of culture and capability, vogue growing in the society.

4. Discussion

The problems of poverty have become the phenomena in our society that exist in so many areas in Semarang. Because of that there must be some ways in the form of sustainable empowerment programs that directly enable the life need of the poor people. The society empowerment is a poverty alleviation program that enable the poor people to be independent in the economics, social or even the other aspects of life. Because of that, it is needed the comprehensive and synergetic policy among central government, local government, business world, and society to empower the poor people. The empiric experience is able to give description where the policy of empowerment programs often gives the effects of resistance not only from the excecuting officials of the policy but also the synergy of the program institution together with local government and the targeted community, so that those policies are unable to be implemented maximally. Meanwhile, the success of the policy implementation depends on many factors that give great influence including the policy understanding by all of the involved stakeholders and the awareness of the society.

5. Conclusion

It is clear that community engagement is widespread, this does not mean that focusing on poverty or poverty reduction is applicable in all conservation situations. In some, site and species management and protection may be more appropriate approaches than livelihoods, education and empowerment. The answer will be context specific and conservation should not be viewed, enacted or judged solely through the lens of poverty reduction.

Conservation and poverty reduction are different societal goals that in particular contexts may come together in mutually supportive or conflicting ways. Relationships between poverty and conservation are complex but this is not always manifest in the wider debate. Conservation organizations need to distance themselves from the generic debate about whether conservation actions are beneficial or detrimental to poor people, and likewise from oversimplified attempts to prove or disprove assumptions of causality between poverty reduction and conservation. (Walpole, M., & Wilder, L. (2008).

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LEARNING INNOVATION MODEL OF PROJECT BASED LEARNING ON 2013 CURRICULUM TO IMPROVE THE QUALITY OF LIFE

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Abstract

The aims of the research are (1)implementing the 2013 curriculum on teaching-learning process in Elementary school in Wirosari (2)learning innovation model of project based learning that is used on teaching-learning process, and (3)the impact of innovation using project based learning model that is used by teacher on teaching-learning process. The subject of the research is some teachers and students of grade 4 in elementary school in Wirosari. Technique of collecting data uses observation, interview and analyzing the document. The technique of data analysis uses interactive model that is developed by Miles and Hubberman. The result of the research such as (1) the implementation of 2013 curriculum on teaching-learning process in elementary school in wirosari run very well. The teachers teach by using scientific approach and autenthic assessment. (2) on teaching-learning process that is implementing 2013 curriculum,teacher uses project based learning that is active and joyful. (3)the impact of learning innovation model of project based learning is students can understand the learning well, so the quality of the output is better.

Keywords: innovation, project based learning, 2013 curriculum.

1. Introduction

Improving the quality of education in Indonesia is one of education system that has function to improve the quality of human resources. School is format institution and part of plans that are made by the government in education using curriculum as the operational base. Curriculum is as one of the important components in education. It becomes main part in government. Curriculum changes time by time in Indonesia. The changing of curriculum is made to make the quality of education better. The changing of curriculum in the recent time are KTSP curriculum and 2013 krrriculum. 2013 curriculum has its own characteristic namely thematics. The changing of curriculum has two reasons. These are internal and external reasons.the internal reasons are education reformation using eight of national education standart and the total of productive human resources. Besides, the external reasons are the challange of the future, the future competence, citizen's perception, the development of pedagogic and knoweldge and the negative phenomena.

Based on the rules of UU no. 20 th 2006 about national education system, education in Indonesia will build educated human who trust to the God, has islamic pity, healthy, rich of

knowledge, capable, creative, and autonomous. Therefore, the education should give optimal function as the way to build the character of human. It is based on 2013 curriculum to make students have high character. In education, the implementation of 2013 curriculum will be successful if the teaching-learning process is fun and the students are active. Thematics learning in some schools, mainly in primary school is using thematics to implement 2013 curriculum. By thematics learning using 2013 curriculum, hope it can improve teachers' competence, give qualified output, and make Indonesia's education better. It is suitable with the aim of national education that is based on the Pancasila and UUD RI 1945. These has function to make the nation's life inttelegent.

2013 curriculum learning implemented in SD/MI uses thematics because as we know that primary school's student is still in concrete operation. Besides, based on Permendikbud Nomor 22 Tahun 2016 about Process Standart mentions that "learning processes in classroom have to be interactive, inspirative, funny, full of challenge, full of motivation to the students in the classroom". Therefore, the principle of learning should focus on the students (student center). The teacher is only facilitator. A teacher have to make innovation within curriculum development that is implemented in learning activity. Integrated

thematics learning is one of the implementations of curriculum that is suggested to be implemented in primary school. Chon Min et al. (2012:273) through the research entitled Teachers' Understanding and Practice towards Thematic Approach in Teaching Integrated Living Skills (ILS) in Malaysia said that "Thematic approach is one of the teaching strategy that uses themes towards creating an active, interesting and meaningful learning". It can be translated that thematics approach is one of learning strategy that is active, attractive and meaningful. thematics klearning can create students to understand the main concepts and connect among concepts in thematics learning. Students can gain direct experience so they can add motivation to find, save and apply the concepts that have been learned. By this way, students can find the concept comprehensive, meaningful, authentic, and active.

The implementation of 2013 curriculum in Indonesia has some challenges. Abidin (2016:24) said that some challenges of 2013 curriculum in primary school are teacher, time, TIK, materials, assesment and learning strategy. One of the challenges faced by teacher in implementing 2013 curriculum is learning strategy. Learning strategy is one of the important components to the teachers and the students in learning process. The selection of suitable learning will give effect to the quality of learning.

In the implementation in primary school, the implementation of 2013 curriculum is based on the activity using scientific approach of integrated thematics. Basen on the Permendikbud no. 65 about process standart said that to strengthen the scientific approach and integrated thematics, it needs to implement discovery learning. The effort to give stimulus to the students to make contextual creativity individually or grouply. It is suggested to use problem solving approach that can create creativity (based on project). therefore, one of the solutions to complete the deficiency in learning is implementing learning innovation model "project based learning" because this learning model can make students active in thinking easy to solve the problem, and creative, cooperative with the other students. Boss and Kraus (2007) defined that project based learning model is a model that based on project. It is as a learning model that centered students' activity within solving open-ended problem and apply their knowledge in doing a project to cteate an authentic product. It is suitable with the opinion of Abidin (2016:167) said that project based learning model is learning model that directly involves students in learning trough observation

to do or finish a project. One of the superiorities of this model is that project based learning is a very good way to develop basic skills. It is a must to the students to have the skills such as thinking skill, decision skill ability, creativity ability, solving problem avility and developing self confidence and self management.

Some researches have proved the effectivity of Project Based Learning (PjBL). Therefore, to strengthen the opinion about project based learning there are two researches. The first research is done by Aziz, et. Al (2013) about project based learning came from Journal of Primary Education, 5 (4): 82-84 yang berjudul "Project Based Learning to Pose Reasoning Skills for Year 1 Pupil". The result in the journal shows that PjBL can attract the students in their learning. PjBL is also helps students to improve their mind skill in learning. Then, the second research is done by Woro Sumarni (2015) about the strength of PjBL implementation that came from International Journal of Science and Research, 4 (3): 478-484 yang berjudul "The Strengths and Weaknesses of the Implementation of Project Based Learning: A Review". The result of the research in the journal shows that the strength of implementation of PjBL as learning model with scientific approach can improve education quality. In this research, it stresses that by using PjBL the students' learning will center so it can make the students easy to be innovative and creative in transferring their knowledge in real situation.

Based on the observation in primary school in Kecamatan Wirosari about the implementation of 2013 curriculum done by some teachers in grade IV. So, this research is used to know how is the implementation of 2013 curriculum, the implementation of PjBL and the effect of the implementation of PjBL on thematics learning of 2013 curriculum in primary school in Kecamatan Wirosari.

2. Method

Contemplated from the kinds of the data, the approach that is used in this research is qualitative approach. The data that is used is qualitative data. Sugiyono (2015: 7) said that qualitative data is form of word, sentence, body motion, face expression, draft, picture, and image. Qualitative research will have some relation with meaningful qualitative data. Therefore, the qualitative researcher have to be able to give meaning and interpretation towards facts in range. In this activity, the researcher doesn't give change, addition or manipulation towards the objects in the research. The

researcher only captures what has happened with the objects in the range, then explain the research simple based on the situation. So, in qualitative research, the researcher doesn't decide the total of the informant but they decide as they need.

The determination of the informant is suited with the focus of the research; learning implementation and the obstruction of learning implementation; therefore, the researcher chooses the teacher and students of grade IV as the informant. They are involved in learning process so they know clearly the condition of the thematic learning implementation.

The kind of the research is descriptive. Descriptive qualitative method is selected to imagine the thematic learning implementation of 2013 curriculum, the use of PjBL of 2013 curriculum, and the effect of PjBL of grade IV in primary school in Kecamatan Wirosari. Based on the data and information that is gained from the informant through document, observation, and interview. The document that is needed is RPP. It is needed to know the plan that is arranged by teacher. The observation is used to cross-check between RPP that has been arranged by teacher and the learning activity at classroom. Besides, the interview is used as analysis tool if there is deviation between RPP with learning activity at classroom. There are two data sources namely primary data source and secondary data source. Primary data source consists of document is syllabus and RPP, observation result towards the fact and object of 2013 curriculum and the implementation of project based learning on 2013 curriculum and the effect of PjBL of Grade IV in primary school in Kecamatan Wirosari Kabupaten Grobogan along with informant that consists of the students. The secondary source is school curriculum archive namely the presence form and assessment form. The technique of collecting data is done by the researcher such as:

a. Documentation

The documentation that is done by the researcher is studying RPP. RPP is orientation of learning process that guides teacher in classroom activity. RPP is a tool to decide the step of classroom activity in 2013 curriculum. So, RPP is arranged should be based on scientific approach by using 5 M, namely observing, questioning, collecting data, analyzing and communicating.

b. Observation

The research observes towards the teacher of grade IV in primary school when they are doing the learning process. The observation is done to suit between the plan in RPP and the activity at classroom. The researcher will not do intervention, but the

researcher only writes the sequences of the learning process using instrument. The instrument is suited with the project based learning in 2013 curriculum of grade IV in primary school in Kecamatan Wirosari Kabupaten Grobogan using scientific approach.

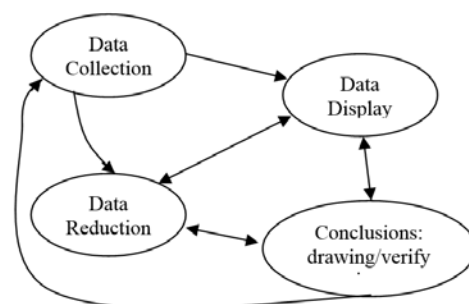
c. Interview

The interview is done deeply to the research subject by using orientation that is made before. The interview activity is used to clarify if there is difference between the plan and the implementation.

The consideration that is used to choose the informant is people that is direct or indirectly involved in learning process. One of the informants is the principle that know well about the school. Thematic teacher of grade IV as the agent and the planner of the learning activity. Besides, the students are as the subject of the learning process and the target of the curriculum

In data analysis, the researcher uses analysis model that is sparked by Miles and Hubberman, namely interactive data analysis model. It means that activity in analyzing the qualitative data is done interactively. So, the data that is gained is saturated. The saturated data shows that informant informs the same fact. There is no changes. There are three activities in data analysis namely data reduction, data display, and conclusion or verification.

This activity is done by the research exactly to get the accurate data. The process can be seen in this schema:



Gambar 1. Components in data analysis (interactive model)

3. Results

Based on the results of documentary studies of seven elementary schools in Wirosari sub-district that have applied the 2013 curriculum, some have indicated a standard planning, meaning that what is planned entirely refers to

thematic learning with students as subject of learning. In the selection of learning models, learning materials, learning resources have been entirely partly based on scientific-based learning in line with the demand for the 2013 curriculum but from the seven primary schools there are two schools that have not been perfect in the implementation of the 2013 curriculum.

Based on the observations made for crosscheck of the learning activity program written in the Lesson Plans (RPP). Observations made during the implementation of learning in the classroom. From the observational data from the seven schools, it shows the learning steps that lead to the learning of curriculum 2013 which is based on saintific. While in several learning activities have shown project-based learning activities. Of the seven primary schools, only two schools have not demonstrated the appropriate learning steps in the 2013 curriculum and there are 4 primary schools that have implemented project-based learning.

Interview activities were conducted with the aim of seeking information related to the discovery of some progress in learning using a project-based model. Interviews from fourth-grade teachers indicate that thematic learning using a project-based model in the scientific-based 2013 curriculum has a positive impact on learning. Some arguments about the thematic learning activities conducted by the fourth grade teacher can be concluded that each model of learning used by teachers must have a separate role in creating active learning in the classroom. Of course, every model of learning has advantages and disadvantages. The use of project-based learning models conducted in the classroom is felt by teachers and students themselves making students more active and cooperation among students also increases. In addition, making project activities can also improve the reasoning skills in learning.

In the implementation of the 2013 curriculum implementation of course there are various obstacles dilami by teachers. Based on the assessment of RPP, some teachers have no difficulty in preparing the RPP. It's just for teachers who are old, making the RPP is usually made RPP used before the teacher tingga edit it. In writing RPP some teachers have been coherent writing down the steps of learning curriculum 2013. Based on the observations of the seven elementary schools can be concluded that some learning components have been met. Beginning teacher preliminary activities motivates students, so that the psychological condition of students is entirely within the learning climate. While in the core activities, indicates the existence of

activities that are dominated by students. The whole flow of information happens both ways from teacher to student. Most students become active. Closing learning involves students in making conclusions. Most of the teachers have already provided reinforcement in the form of questions or tasks to prepare for the next lesson. Lessons learned with project-based learning models have constraints when teachers implement project-based learning materials that teachers use are not fully supported for project-based activities. Thus the need for more dominant and varied teaching materials that refers to project-based learning. Obstacles experienced by students is that students need a variety of equipment or materials to be purchased for each project activity. Barriers to students lead to the costs involved in project creation.

4. Discussion

The implementation of the 2013 curriculum in elementary schools in Wirosari has been largely positive in its implementation. However, in the preparation of the Lesson Plans (RPP) made by fourth grade teachers, most have a tendency or impression that the preparation of the Lesson Plans (RPP) just fulfills the target of completing the learning tool. More badly the Lesson Plan is made for the consumption of the principal or school supervisor, in other words, aborting the administrative liability. Teachers as educators, teachers, coaches and coaches are not enough to be delivered only verbally. Real work demonstrated through classroom learning in the form of experiments, inquires, discovery, makes the project more memorable for students as they experience it directly, not only reading the tables but instead creating the tables, not only listening to the success stories of science but doing it on their own and reporting that He can perform activities like that done by a scientist. Inquiri, discovery, problem-based learning models, project-based learning is most appropriate and recommended by the 2013 curriculum.

Every curriculum change is always a process of socialization, pilot projects, deseminaton that all aim to the curriculum implementers soon adapt. The obstacles in the form of teachers' mental attitude toward curriculum change are very diverse because of various factors, among others: age, employment, socioeconomic background, educational background including background experience of self development activities. Elements of school leaders in this case the principal also contributes to factors that become obstacles implementation of the 2013 curriculum. The principal should have an in-

depth background on the theory and practice of the curriculum. The principal is an important role in the development of the curriculum. While the same as teachers, the headmaster has not been a reliable resource for the implementation of this 2013 curriculum process. Means of supporting the implementation of thematic learning for example, teaching materials used by teachers is inadequate, so the need for additional teaching materials. Books of learning resources with insufficient quantities while independently the school has not been able to provide but waiting for dropping from the government, tools and materials practicum is not far. Different from textbooks. The readiness of the government in this case the education office in socializing the new curriculum has not reached most teachers or not all teachers due to various obstacles such as the number of teachers so much that it takes a long time, while the new school year has started.

All the above obstacles can be minimized because of factors such as: The government through the Ministry of Education and Culture has issued several Ministerial Regulations as the judicial basis for the implementation of the 2013 curriculum. This regulation is the legal umbrella as well as guidelines in the curriculum implementation 2013 curriculum; The science-based 2013 curriculum is based on a student centered paradigm, with creative and innovative learning models opening wider discourse for students. The flexibility in obtaining information and utilizing the environment as a source of learning to make students free to exploit its potential.

Implementation of project-based learning has been partially implemented by fourth grade teachers. Based on the results of interviews with teachers who teach fourth grade it can be concluded that teachers using project-based learning model feel that students are more active in the class because the learning is done by group discussion and produce the product at the end of the activity and the presentation of the student's product. The advantages of project-based learning model presented by the teacher is this learning helps students more active in thinking, solving problems, more creative and can cooperate with other students. Students also better understand the material presented by the teacher through activities to make the project.

According to research conducted by Cameen Kettanun (2014) entitled ". Project-based Learning and Its Validity in a Thai EFL Classroom. Procedia Social and Behavioral Sciences "shows that project-based learning is used to promote the intellectual and social development of students, therefore requiring

them to actively participate in the process of acquiring knowledge and skills with limited teacher supervision. The research findings show that EFL-based project classes not only produce positive learning, but also help students to improve their ethical reviews of cognition, work, and interpersonal skills.

It shows that the positive impacts from the implementation of project-based learning model is to make students more active thinking, solving problems, enabling students to innovatively and creatively transfer their knowledge to real world situations and to cooperate with other students. The impact of course makes the output of students who are still qualified.

It shows that the impact of project-based learning can improve the quality of education which means that the quality of good education will certainly make the quality of life of the output is also good.

5. Conclusion and Suggestion

Implementation of thematic learning that refers to the 2013 curriculum in the fourth grade at elementary school in Wirosari with model of project-based learning most of it is going well. Obstacles faced in project-based learning include: teaching materials used by teachers in applying project-based learning inadequate. In the implementation of project-based learning the students must should costs in each project activity. The impact of project-based learning implementation can improve the quality of life of students.

Required mental readiness of fourth-grade thematic teachers in elementary school in Wirosari to face up the curriculum change, especially curriculum 2013 through socialization, workshop, school level and district level. The principal in his duties and functions as supervisor should perform these tasks and functions more optimally. With programmed and continuously implemented supervision, teachers are gradually improving pedagogical competence, social competence, competency and professional competence.

It is necessary to increase the carrying capacity of facilities and infrastructure and the quality of human resources in the implementation of learning through school policies oriented to entrepreneurial spirit. Preparation of learning tools should be addressed as a means to improve the quality of learning and teacher performance. With the RPP is properly arranged learning will be controlled and if there is irregularity will soon be controlled and returned to the actual path.

This research is held in elementary school in fourth grade in Wirosari with population all fourth graders in elementary school in Wirosari. Researchers hope there is further research in terms of region or location.

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COMMUNITY ECONOMIC EMPOWERMENT STRATEGY TO INCREASE INDEPENDENCE AND WELFARE OF PAKET C LEARNERS

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Abstract

This study focused on the empowerment strategy to increase the independence and the economic welfare of the Paket C learners in CLC Karawang. This study aimed to analyze : 1) the strategy of economic empowerment through entrepreneurship training society, 2) the results of the public entrepreneurial training for community economic independence, and 3) the impact of economic independence for the welfare of the Paket C learners. The study was conducted using a qualitative approach through the case study method. The research subjects consisted of a manager of CLC, a trainer, and three of the Paket C learners in CLC Karawang. Data were collected using observation, interviews, and documentation. Data were analyzed using an interactive model. The data analysis involved the following stages: data collection, data reduction, data display, and conclusion drawing/*verifying*. Authenticity technique of data was carried out through triangulation with multiple sources through peer discussion. Results of the study revealed that: 1) entrepreneurship training was implemented using a participatory strategy. Entrepreneurial training plan involved learners, training managers and trainers in identifying learning needs, training resources, and possible barriers to training activities. The training process used the inquiry approach, flocking methods, and various techniques according to community entrepreneurship training materials. Entrepreneurship training assessment used self-evaluation that prioritizes indicators of success obtained and perceived learners. 2) The results of training can improve knowledge, attitude, and skills of entrepreneurship for economic independence learners. 3) economic independence has an impact on improving the welfare of the Paket C learners' family.

Keywords: Empowerment strategy, Economic independence, Learners' Welfare.

1. Introduction

Empowerment is part of a development paradigm that focuses its attention on all aspects of the principle of man in his environment, from the aspect of knowledge, attitudes, and skills of human beings, both material and physical aspects, to managerial. These aspects are developed into a socio-cultural, economic, political, security and the environment. In the economic aspect, the community empowerment program serves to increase people's income, supporting the national economy.

In the context of non-formal education, empowerment through entrepreneurship training aims to strengthen the potential or community-owned power (*empowering*) by enhancing the knowledge, attitudes, and skills of entrepreneurship. Increased entrepreneurial

competence is strengthening as the provision of various inputs, and the opening of access to the various opportunities that will make people become empowered. Economic empowerment for the independence of the community not only includes strengthening individuals, but also educational institutions that exist in society.

The purpose of community entrepreneurship training for Paket C learners in CLC Karawang is to encourage and create new entrepreneurs, supported by business and industry, business partners and offices/agencies, so as to create jobs/new ventures or pioneering business opportunities, instilling a mindset and entrepreneurial attitude, giving the stock of knowledge in entrepreneurship, provide supplies of skills in the field of production of goods/services, and training in entrepreneurship skills through the practice of entrepreneurship.

Community entrepreneurship training aims to improve new, innovative and creative entrepreneur. So that people should always want to know, try, play, and intuitive. Entrepreneurial training purposes provided supplies for the community through three dimensions: the aspect of managerial skills, technical production skills, and personality development skill. The third major aspect of the essence is to instill the attitude and spirit as well as the ability to work independently and embedded entrepreneurial paradigm.

The purpose of community empowerment is the community's independence, especially from poverty and underdevelopment/powerlessness. In practice, conducted community empowerment is not limited to economic empowerment in order to alleviate poverty (*poverty alleviation*) or poverty (*poverty reduction*). Community empowerment program carried out not only in the form of development of productive activities increased *income generating*. But basically, community empowerment is an effort to improve, encourage the willingness and courage, as well as provide an opportunity for community efforts with or without the support of outside parties to develop their independence in order to realize improvement of their economic, social, physical and mental sustainable manner.

To achieve the goal of community empowerment, there are three lines of activities that can be implemented, namely: 1) creating an atmosphere or climate that allows the potential of the community to develop. Point of departure is, the recognition that every man and society have the potential/power that can be developed, 2) empowerment is an attempt to build a power that, by encouraging, motivating, and raise awareness of its potential, and seeks to develop it, 3) strengthen the potential or community-owned power (*empowering*). Community entrepreneurship training developed to improve people's economic independence.

Independence meant not mean rejecting the help of "those outside", but the ability and courage to take the best decision based on considerations: 1) the state of the resources they have and can be used, 2) acquisition and the ability of the technical knowledge to harness science and technology, 3) the attitude of entrepreneurial and managerial skills are mastered, and 4) the suitability of the socio-cultural and local knowledge.

The impact of independence after entrepreneurial training activities to the economic welfare of Paket C learners is characterized by the ability and responsibility to

manage the business, either by themselves or by others. The learners learn to be able to manage the revolving fund, set up the administrative and financial management in a transparent manner, so as to contribute to various aspects of development. Economic independence through entrepreneurship training was implemented to improve the economic welfare of the learners. The independent learners who can ultimately express the aspirations and needs and are able to influence the decision-making process of public policy at the local level to be more oriented to the poor (*pro-poor*), both in terms of social, economic and environmental.

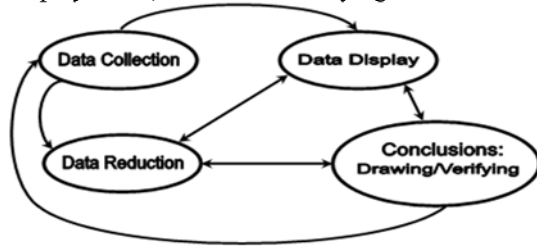
Based on the above background, the problem in this research is focused on the empowerment strategy to increase the independence and economic prosperity in detail analyze the strategy of economic empowerment through entrepreneurship training, the result of entrepreneurial training for economic self-reliance of society, and the impact of economic independence for the welfare of the Paket C learners at CLC Karawang.

2. Research Method

The approach used in this study is qualitative. The research objective was written with the terms "technical" language studies derived from qualitative research (Schwandt 2007 in Cresswell, JW, 2013: 167). The case study method of research trying to find meaning, to investigate the process, and gain understanding and deep understanding of individuals, groups and the research situation (Emzir, 2010). Researchers noted the problems arising in respect of the research object carefully, then naturally it is described in accordance with the facts about the implementation of the empowerment strategy to increase the independence and the economic welfare of the citizens learn Paket C in CLC Karawang. The research subjects consisted of CLC managers, trainers, and learners Paket C.

Data collection techniques used in this study is the researchers themselves as key instruments are supported interview, observation, and documentation. The study was conducted through the following stages: 1) orientation, in order to obtain information about the focus of the research problem, 2) exploration, to determine the focus of research purposes, and 3) member check, to check the research findings in accordance with procedures and obtain the final (Nasution, S. 1996: 33-34). Data processing analysis techniques using Interactive Model, through the following phases: 1) the data

collection. 2) Data reduction, 3) the data display, and 4) conclusion/verifying.



Gambar 1.

Komponen Analisis Data Model Interaktif
(Miles, M.B. & Huberman, A.M., 1994:19-20)

3. Finding and Discussion

Strategy Economic Empowerment Through Community entrepreneurship Training

Entrepreneurial training for the community of Paket C learners in CLC is done through the planning, implementation, and assessment. In the planning stage manager and tutor in CLC identifying learning needs, advantages, disadvantages, and business opportunities that will be developed. Formulate objectives set forth in the guidelines for the implementation of community entrepreneurship training. Guidelines for the implementation of entrepreneurship training society consisting of 1) the planting of life, attitudes, and ethical entrepreneurship, 2) knowledge of entrepreneurship, 3) skills in the field of production of goods/services, 4) practice entrepreneurial skills are supported by business and industry, business partners and departments/agencies, so as to create jobs/new business or to access employment opportunities/existing businesses.

Training is defined as teaching or giving experience to develop behavior (*knowledge skill/skills and attitudes*) in order to achieve something desired (Robinson, 1981: 12). Implementation of community entrepreneurship training for Paket C learners in CLC uses participatory training strategies that involve all citizens to learn to learn and practice the skills of entrepreneurship. Given entrepreneurship, training materials consist of : **Theory** of entrepreneurship, which includes strengthening knowledge about entrepreneurship; an understanding of the tools, materials, and procedures for the field of business skills, understanding of the attitudes, behavior, and mindset of an entrepreneur. **Entrepreneurial**

attitude, which includes: habituation attitude, behavior, work ethic, teamwork, leadership, personality, discipline, work honesty, responsibility, and so on. **The practice of entrepreneurship**, which includes practice work skills, and managerial practices to improve the management of entrepreneurship. In entrepreneurial practice, people learn Paket C training to improve the quality of production, packaging quality, increased business partnerships, business development and management assistance, capacity building, and marketing of products.

Evaluation community entrepreneurship training for Paket C learners in CLC is participatory. The manager of CLC, tutors, and learners together measure the increase of knowledge, attitude and entrepreneurial entrepreneurship is perceived and experienced by learners. An assessment carried out regularly during the process and at the end of training and mentoring. Indicators of the success of entrepreneurial training is a minimum of 90% completion of the entrepreneurship training, and at least 70% able to self-employed independently. Assessment is to determine the independence of trying learners after having entrepreneurial competence. Assessment of the impact of entrepreneurship training conducted to determine the economic welfare of the learners.

For the implementation community entrepreneurship training for Paket C learners in CLC is participatory is in line with the opinion of Sudjana, D. (2007: 31) who argued that the typical characteristics of Nonformal and Informal Education Program training program is a structure that is flexible and approach to democratic start planning, implementation, and evaluation of the feedback.

Empowerment is a translation of the word empowerment is emerging in medieval Europe, continues to grow until the end of the 70-80's, and early 90's. This concept affecting empowerment theories that developed later. Conceptually, "empowerment is a process of helping disadvantaged groups and individuals to compete more effectively with other interests, by helping them to learn and use in lobbying, using the media, engaging in political action, understanding how to 'work the system' and so on". (Ife, J. W, 1995).

Community empowerment strategies through entrepreneurial training community for Paket C learners in CLC Karawang is the entrepreneurial development of local potential that focuses on the process of economic growth driven by the learners by utilizing local potentials for development in an effort to improve the

economic welfare of local communities. This is in line with the opinions Lincoln, A., and Elan, S., (2011: 95) which suggests that this entrepreneurial development strategy that uses a territorial approach that relies primarily on the needs, potentials, and local actors of a certain area (*locality*).

Theoretically, empowerment can be attributed to the transformation of the social, economic and political (power). Empowerment is the process of growing power and authority to act greater for the poor is one of the implications of the notion of development as an increased capacity to influence the future. Empowerment refers to the effort reallocation of power by changing the social structure (Swift and Levin, 1987). Rappaport (1984) suggested that empowerment is a means by which people, organizations, and community directed to be able to control (*or reign*) life". (Ife, J. W, 1995).

Community empowerment is an economic development concept that encapsulates the social values. This concept reflects the new development paradigm, namely that is "people-centered, participatory, empowering, and sustainable" (Chambers, R., 1995). This concept is wider than merely satisfy basic needs (*basic needs*) or provide a mechanism to prevent the further impoverishment (*safety net*), whose ideas recently been developed as an effort to find an alternative to the concepts of growth in the past. This concept evolved from the efforts of many experts and practitioners to find what among others by Friedman, J. (1992) referred to as alternative development, which requires inclusive democracy, Appropriate economic growth, gender equality and intergenerational equity". (Kartasmita, G., 1996).

Result Entrepreneurship Training Society for Community Economic Independence

The results of entrepreneurship training community Paket C learners are the increased knowledge, attitude, behavior, and entrepreneurial skills so that they can start small businesses by utilizing pioneering skills, business opportunities and potential of the area. Paket C learners in CLC led pioneering efforts in accordance with their skills in producing goods and/or services to meet the needs of the market.

Independence of entrepreneurship that has been obtained learners Paket C based on improving knowledge, attitudes, and skills. The Learners learn to independently use the ability to select materials and use the necessary tools to process the results of operations. Knowledge and

skills on how to process raw materials into finished materials with indicators of entrepreneurial skills practice. The practice of creating a learning experience expected results of operations are able to create a marketable production output for the indicator was able to calculate profit and loss results of production marketing.

In the context of entrepreneurship training for Paket C learners to enhance the entrepreneurial competence it, Riyanto, A. (2000: 5-6) argues that entrepreneurship training is a kind of education that train them to be able to create their own business activities. Such training was accomplished by means of : a) build faith, soul and spirit, b) establishing and developing the mental attitude and the nature of self-employment, c) develop the power of thought and how entrepreneurship, d) promote and develop the power of driving themselves, e) understand and master the technique in the face of risk, competition, and a process of cooperation, f) understand and master the ability to sell an idea, g) has the management or processing capability, and h) have particular expertise include certain foreign language skills for communication purposes.

Entrepreneurship above training aims to foster and build an entrepreneurial mindset, improve attitudes and behaviors of business, and business management for Paket C learners. Entrepreneurship is a combination of creativity, innovation, and courage to face the risks undertaken by way of hard work to establish and maintain business new. Creativity is the ability to develop new ideas and discover new ways of looking at problems and opportunities (Zimmerer, TW, 1996: 51). "Entrepreneurship is the process of creating something different with The Necessary value by devoting time and effort, assuming the Accompanying financial, psychic, and social risk, and receiving the resulting rewards of monetary and personal satisfaction and independence. Further stated that "entrepreneurship is applying creativity and innovation to solve the problem and to exploit opportunities that people face every day". (Hisrich-Peters, 1995: 10) in Alma, B. (2007: 26).

In connection with entrepreneurial training results learners, Paket C is enhancing knowledge, attitude and entrepreneurial skills to develop the business in accordance with the potential of each. "Entrepreneurship is the ability to create a new and different thing. In fact, entrepreneurship is simply often also be interpreted as a principle or entrepreneurial skills. Entrepreneurship is the

ability to create new and different" (Drucker, PF, 1994: 27).

Impact of Economic Independence against Citizens Welfare Learning

Entrepreneurial training for community Paket C learners is expected to have an impact on self-reliance and economic prosperity through the development of business in accordance with the type of business and the potential of locally owned. Community entrepreneurship training impact for the economic empowerment of citizens to learn Paket C is characterized by increased entrepreneurial competence by enhancing the knowledge, attitudes, skills and enterprise independent individual or part of a business incubator that developed CLC, the formation or development of business units/business incubators and strengthening institutional as pilot centers of entrepreneurial community in accordance with its potential, and the creation of sources of funding opportunities derived from profit institutions business unit/business incubator developed to improve the economic welfare of society.

Community empowerment strategies in Nonformal Education, which one of them through community entrepreneurship training program, according to Kindervatter, S. (1979) can be implemented through eight principles: 1) study conducted in small groups, 2) giving greater responsibility to learners during the learning activities take place, 3) leadership of the group, played by learners, 4) educators to act as a facilitator, which provides support (encouragement, guidance, etc., 5) the process of learning activities take place in a democratic, 6) the unity of views and step between learners by educators in achieving the goals, 7) using methods and techniques of learning that can lead to confidence in learners, and 8) the final aim to improve the social status, economic and/or political learners in the community.

In an effort to raise awareness and the ability of the world lives of young people as part of the community, in accordance with the proposed educational awareness Freire, Kindervatter, S. (1979) put forward the concept of empowering process. This concept means that "people gaining an understanding of and control over social, economic, and/or political forces, in order to improve Reviews their standing in society". The process of giving power or empowerment is any educational efforts aimed at raising awareness, understanding, and sensitivity of learners to the social development, economic and/or political so that in turn the students have

the ability to improve and enhance the social status, economic and political community.

4. Conclusion

The planning stage entrepreneurial training for community Paket C learners in CLC was done by identifying learning needs, advantages, disadvantages, and business opportunities that will be developed to formulate and develop a community entrepreneurship training program. Entrepreneurship training materials include attitude and entrepreneurial ethic, entrepreneurial knowledge and skills in the field of production of goods/services. Implementation of community entrepreneurship training used participatory training strategies that involve all citizens to learn to learn and practice the skills of entrepreneurship. Rate participatory community entrepreneurship training involving CLC managers, tutors and learners together measure the increase of knowledge, attitude and entrepreneurial entrepreneurship is perceived and experienced by learners. Assessment is done periodically during the training/mentoring and at the end of the training/mentoring.

The results of community entrepreneurship training to Paket C learners are the increased knowledge, attitude, behavior, and entrepreneurial skills that have the independence utilize his skills are looking for business opportunities in accordance with the potential of the area. Paket C learners at CLC have the independence pioneering efforts in accordance with their skills in producing goods and/or services to meet the needs of the market.

The impact of community entrepreneurship training for Paket C learners is the increasing economic welfare through appropriate business development potential of the business and locally owned. Paket C learners learned to have sought independence as individuals or part of a business incubator developed by CLC in accordance with its potential to improve the economic welfare of society. The impact of entrepreneurship training for economic empowerment of community Paket C learners is characterized by increased economic welfare families.

Based on the conclusion, suggestions are given: CLC managers distribute the resulting yield citizens to learn Paket C to the market so as to further increase its revenue. CLC can provide entrepreneurial training and ongoing mentoring to enhance the independence of entrepreneurial of the learners so that the production and marketing will increase. PKBM help eases access to capital for Paket C learners in

developing and expanding its business to the bank with a low repayment rate.

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THE PERCEPTION OF SOURCE CREDIBILITY AND SOURCE ATTRACTIVENESS IN CLASSROOMS

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Abstract

This research is about source credibility and source attractiveness. It was hypothesized that motivation to learn is determined by the source and attractiveness. It is a positivistic paradigm research with quantitative approach and questionnaire is used to collect data. This research was done at The School of Communication and Secretarial Studies Tarakanita, a school for ladies. The population is all ladies (900 persons) and the sample is determined by stratified random sampling. There are 200 respondents who filled out the questionnaires. Data were analyzed by using SPSS. The research indicated that motivation is not significantly influenced by source credibility and attractiveness though partially, both variables give positive impact on motivation ($\alpha < 0.000$). When further analysis was done, motivation to study of ladies is only influenced by source attractiveness (44%). This research result indicated that source credibility does not always give positive impact to motivation. Young ladies do not pay attention to whether the source/lecturer is competence or not but the source must be attractive. She/he must be physically attractive or good looking, have good reputation, and have charisma. It is a very special case finding that happens in a homogenous population. It might not be generalized in heterogeneous population.

Keywords: *credibility, attractiveness, motivation.*

1. Introduction

Source credibility is very important for educators. Previous researches indicate that boredom of students were increasing when their teachers were not credible. Their trust to their teachers is on the teachers' ability a certain field. This will increase the students' interest to involve in the class.

Besides credibility, teachers must be attractive. Source attractiveness will increase the students interest to listen to the teachers. Djamarah (2002:132) breaks down indicators of interest to learn. They are liking, interest, motivation. Slmeto (2010:180) said that indicator of students' interest to learn are happiness, attractiveness, acceptance, and involvement.

Based on the above explanation, it was hypotizised that a sense of being happy and self attrativeness and acceptance to the teacher by the students will increase their savior to be in the class room. Leacturers are supposed to develop the students interest to study. Based on rhetoric, Aristotle assumed that lecturer should be able to boost up the students' interest to study. Teachers must have ethos, pathos, and logos. Ethos deals with the teacher's credibility, pathos is in line with selt attractiveness, whereas logos means the logic of the communicator. These three will be

useful for every lecturer to motivate students to be active learning and to be more dillident to attend the class. When they are dilligent, it is an indicator that students can complete their study on time.

The assumption about source credibility and source attractiveness was supported by a research findings by Kelly (2012). It was found out that there has been a positive relationship between source credibility and students' interest to study Dewi (2014). Dewi found out that there was a positive relationship between source credibility and motivation.

These backgrounds drive the researcher to see further about source credibility and attractiveness especially at woman higher school (Tarakanita) in Jakarta. The research question of this research is "Do source credibility and self attractiveness give positive and significant effect towards students motivation of Tarakanita Students". The research objective is to answer the reseach question namely to see and analyse the effect of sourse credibility and source self attractiveness towards the students' motivation to learn in classrooms.

2. Literature Review

Learning Interest

Djamarah (2008:132) said that interest is a tendency to pay attention and to recall some activities. Someone who is interested in a certain activity will give attention to it consistently. Personal interest is a liking to and interest to certain thing or particular activity without any external driven (Slameto, 2010:180). She/he will be interested in a thing or activity and she has a passion to get involved in it without any support from outside. A student who is interested in a certain activity will stay to love it. Jacob W Getels as summarized by Syaiful Bahri Djamarah (2008:75) said that "an interest is a characteristic disposition, organized through experience, which impels an individual to seek out particular objects, activities, understanding, skill, or goals for attention or acquisition". An interest is a learning outcome and it will support other learning activities as mentioned by Djamarah (2008:133).

According to Syah (2006) defined learning as a tendency and a passion or a desire to achieve the goal. Zanikhan (2008) defined learning motivation as a psychological aspect in a form of passion, desire, and a good feeling to do some processes of behavioral change via any activities such as pursuing experience and knowledge. In short, learning interest is a personal driven to learn. The indication is enthusiasm, participation and activeness to learn.

It is concluded that learning interest is a happy feeling to do some processes of behavioral changing which is shown by the students in a form of continuous attention and it will drive her/him to overcome any obstacles.

There are factors that influence interest (Surya, 1999). First, internal factors. This includes the absence of clear learning objective. If he does, he tends to learn harder. Learning is a necessity. When a person puts learning as necessity, she/he will learn without any external motivation. Learning interest, then, depends on the objective of the student. Then, internal factor deals with the benefits of learning to the students. When it is not beneficial for her/his life, he/she tends to avoid it. Health is another reason. Students' physical health such as sickness, lack of vitamin or other physical disorders will give negative impact on the interest of doing school work or homework. The last one is mental disorder such as emotional disorder, hatred, and other distractions in the thinking process that will influence the learning interest.

Second, external factors. It includes the delivery, personal conflict, environment, and

family. Delivery of every teacher will influence the student's motivation. Delivery is not the same as the readiness of the teacher. Delivery relates to teaching techniques of delivering the learning materials. Monotonous learning activity will of course degrade students' motivation to learn. Conflict between student and teacher will reduce the students' motivation to learn or even will kill the students' interest to learn. Environment includes the environment of school or campus. It includes school environment, learning climate, situation, the classroom, and school facilities. Family is another external factor. Broken home family, personal attention from his or her parents will give effect to the students. Conducive family will support him/her to study and vice versa.

According to Hilgard (in Suryabrata, 1984:252) said that learning is a process of an intentional action that lead to a change. The change is relatively permanent and will not turn back. It is not just a temporary change as fatigue, feeling sick and so on.

Gagne (1977) in his book 'The Condition of Learning' said that learning is a transformation which is shown by a change of behaviour. There is a significant change of behavior before and after. An alternation of behavior takes place due to an experience or a training. It is of course different from a change because of a sudden reflect or instinctive behavior.

Surya (1981:32) defined learning as a process of personal experience to the change of behavior as a result of individual experience and his/her interaction to the environment. It is concluded that all mental activities or psychological activities will effect to the change of behavior differently from one person to another between before and after the process of learning.

Indicator of Learning Motivation

There are four indicators of learning motivation liking, interest, attention, and involvement (Safari, 2003). First, when students are happy with the subject she/he learns, she/he will be interested in learning or involving in the lesson. He/she is not compelled to learn something. Second, interest. It is the power which drive someone to like to something, someone, some activities of some affective experience which is driven by the activity itself. Third, attention. It is a matter of psychological activity or concentration to observation and an understanding by eliminating something which disturbs his/her concentration. Fourth, involvement. It is someone's feeling to a certain thing that will attract him/her to do an activity or

to come closer to the object that interests her/him.

Persuasion

Persuasion basically means trying to influence the way someone thinks or behaves. There are all kinds of different ways to persuade someone to do something. An advertisement is using an appeal to emotion. The students at the debate club are doing something different. Instead of appealing to emotion, they're trying to persuade each other with logical arguments that use facts and evidence. Being persuasive isn't the same thing as being right.

It takes time, consists of a number of steps, and actively involves the recipient of the message. Symbol is a means used by a communicator to change an opinion, attitude, and behavior. It is different from opinion. Persuasion needs more time and longer steps to receive messages. Persuasion involves symbols of messages through language. Persuasion also involves the use of symbols, with messages transmitted primarily through language with its rich cultural meanings. Symbols include words like freedom, justice, and equality. Symbols are persuaders' tools, harnessed to change attitudes and mold opinions.

There should be an effort to persuade. Persuasion involves an attempt to influence. Persuasion does not automatically or inevitably successful. Like companies that go out of business soon after they open, persuasive communications often fail to reach or influence their targets. However, persuasion does involve a deliberate attempt to influence other persons. The persuader must intend to change another individual's attitude or behavior, and must be aware (at least at some level) that she is trying to accomplish this goal.

Persuasion is effortless successful. Certain efforts are needed to be able to persuade other people. A communicator is supposed to change someone's attitude or behavior. Everyone can be persuaded, given the right timing and context, but not necessarily in the short term. He/she can never persuade somebody who's not interested in what you're saying. We are most interested in ourselves, and spend most of our time thinking about either money, love or health. The first art of persuasion is learning how to consistently talk to people about them; if he/she does that then he/she'll always has their captive attention.

One of the great myths of persuasion is that persuaders convince us to do things we really don't want to do. They supposedly overwhelm us with so many arguments or such verbal ammunition. People persuade themselves to

change attitudes or behavior. Someone can only activate their desire and show them the logic behind the ideas. Their devotion and total commitment to an idea come only when they fully understand and buy in with their total being.

Persuasion involves the transmission of a message. The message may be verbal or nonverbal. It can be relayed interpersonally or through mass media. It may be reasonable or unreasonable, factual or emotional. The message can consist of arguments or simple cues, like music in an advertisement that brings pleasant memories to mind. Persuasion is a communicative activity; thus, there must be a message for persuasion, as opposed to other forms of social influence, to occur. News unquestionably shapes attitudes and beliefs. Books, movies, plays, and songs have a strong influence on how we think and feel about life.

Persuasion requires free choice. Self-persuasion is the key to successful influence, then an individual must be free to alter his own behavior or to do what he wishes in a communication setting.

The Impact of Persuasion

Attitudes are "shaped" by associating pleasurable environments with a product, person, or idea. Contrary to popular opinion, many persuasive communications are not designed to convert people, but to reinforce a position they already hold. Changing. This is perhaps the most important persuasive impact and the one that comes most frequently to mind when we think of persuasion. Communications can and do change attitudes.

Attitude and Persuasion

Hutagalung (2015:79) mentioned that attitude consists of three parts cognitive (belief and awareness), affective (feeling), and conative (behavior). Cognitive attitude includes component consisting of belief and some thoughts about certain objects. Cognitive is categorized in the process of thinking. Affective is someone's feeling or emotion to objects. It is a feeling of being happy or not happy towards an object. The feeling includes anxiety, love, hatred, anger, and so on. Component of conative consists of readiness to interact or to act towards objects. If he/she is happy to look at a certain object, she/he tends to be closer, to touch and to behave specifically.

Perloff defines attitude as power or the quality of thinking. Attitude is a psychological construct. Attitude is one's mental and emotional condition. Attitude is a learned, global evaluation

of an object that influences thought and action. It is clear that attitude is not behavior.

Attitude can be learned. Human beings are born with a certain attitude but it is learned through social interaction. Although attitude can be genetically constructed, it develops because he/she interacts with others. It is global, emotional and evaluation. When someone has an attitude, she/he is able to judge something, she is no longer neutral but she should select her position. Then, attitude involves affection and emotion as it will be useful to uncover hatred, attractiveness, liking and unliking.

Attitude will effect toward thoughts and actions. Attitude manages the world. She/he is able to categorize people, places, or even events or certain occasions. Attitude will create perception and it will then influence judgement. Attitude will also influence behavior as it will lead our action and will direct us to certain action.

What should we do to maximize persuasion? To be more persuasive, the message should fall into the acceptance sphere. The arguments should be logic and be able to be received by normal sight. The other way is by implementing statement which takes place in a non-commitment sphere but it is followed by logic and positive thinking. Based on Social Judgement Theory, an argument or message might be in the acceptance sphere or rejection sphere by three components source credibility, ambiguous message, and dogmatic thinking (Morisan, 2010:28).

Elaboration Likelihood Theory

Elaboration Likelihood Model (ELM) is developed by Richard E. Petty and John T. Cacioppo in 1980s. The ELM is based on the idea that attitudes are important because attitudes guide decisions and other behaviors. While attitudes can result from a number of things, persuasion is a primary source. The model features two routes of persuasive influence: central and peripheral. The ELM accounts for the differences in persuasive impact produced by arguments that contain ample information and cogent reasons as compared to messages that rely on simplistic associations of negative and positive attributes to some object, action or situation. The key variable in this process is involvement, the extent to which an individual is willing and able to 'think' about the position advocated and its supporting materials. When people are motivated and able to think about the content of the message, elaboration is high. Elaboration involves cognitive processes such as evaluation, recall, critical judgment, and

inferential judgment. When elaboration is high, the central persuasive route is likely to occur; conversely, the peripheral route is the likely result of low elaboration. Persuasion may also occur with low elaboration. The receiver is not guided by his or her assessment of the message, as in the case of the central route, but the receiver decides to follow a principle or a decision-rule which is derived from the persuasion situation.

Persuasion is very much associated with our daily life. Persuasion occurs when readers, listeners or viewers learns a message from what they read, listen or watch. We remember the message as ideas and we will be persuaded by it. That is how we remember them. If we did not learn something, it is not possible to remember it and we will not be persuaded by it. However learning may not be always combined with persuasion. For example there might be some advertisements that we hate, we don't want to learn or remember the message from the advertisement and we are not being persuaded by it. The Elaboration Likelihood Model (ELM) explains how persuasion message works in changing the attitude of reader or viewer.

The question is 'what is meant by elaboration likelihood? Elaboration refers to how an individual thinks or mentally modify arguments in communication. Likelihood refers to probability of communication events because elaboration creates likely or unlikely. Elaboration will place a range of elaboration starting from elaborated and non elaborated. Likelihood elaboration is a probability where someone will evaluate the message critically. One who is critical is those who are careful, digest every message, idea, information or message received (Morris, 2010:33).

ELM is about how an individual processing messages. It about when and how an individual is persuaded and change his/her mind through the message she/he receives. There are two ways of processing messages, central and peripheral routes.

Central route processing involves a high level of elaboration. Here, the audience (or user) scrutinizes the message's contents (rather than reads casually) because of a high motivation level. Users know what's important to them; consequently, they will invest in examining a credible design's message. So, if users are persuaded via central route processing, they will have focused on the message's strengths. They'll also be more likely to focus and ignore distractions (such as pop-ups) as they seek their goals.

Peripheral route processing involves a low level of elaboration. The user isn't

scrutinizing the message for its effectiveness. As such, other factors can influence him/her, including distractions. These include such users as those who know that they want an item, but do not know much about the *detail* of that item.

Interpersonal persuasion

One of interpersonal persuasions is discussed in Social Exchange Theory. A relationship is going on if both sides are equal. A relationship might be in trouble if there is no balance between cost and rewards. They might close or stop a relationship if one of them will not receive rewards. Cialdini (2001) in an article titled "Harnessing The Science Of Persuasion" mentioned 6 principles of persuasion, liking, reciprocity, social proof, *people align with their clear commitment, authority, and scarcely*.

Dimensions of Persuasion

Based on the theory of Elaboration Likelihood Theory, he/she will be persuaded depending on how he/she manages the message. In order to persuade, there are two components to complete, message source and the message itself. Hutagalung in Sears et al (1985:172) said that source is the most important factors in persuasion. The change of attitude of the receiver depends on the message and the target of the message (Hutagalung, 2015:75). Perloff (2010:175) said that the success of persuasion depends on message source and the message itself. So that's why in this research, the concept of persuasion is divided into two components, the message source and the message itself.

When talking about persuasion, charisma is always the keyword. It is related to the authority, attractiveness, or a special person who has the power of persuasion. Charisma is a concept which connotatively positive but sometimes it is interpreted vice versa. Charisma is identical with violence such as persuasion by Adofl Hitler who used words and symbols to protect his authority and his power.

There are attributes of persuasive source, authority, credibility, and attractiveness. First, it is authority. It is about someone who is appropriate to deliver the message. He has the power to deliver the message to the receiver. Second, it is credibility. A communicator is credible if he has a certain qualification to deliver a message. A person who has the authority is not always credible to deliver a message. Credibility is a perception of receiver towards the quality of the message source because of his/her expertise. Third is attractiveness. A communicator might be successful in persuading if she/he is attractive. Attractiveness can be seen from the way she/he

dresses, the way she/he speaks, and the way she/he delivers the message.

Perloff (2010:175) mentions indicators of attractiveness. First, likability. He/she has likability means she is able to make the audience feels comfortable and certain. She/he looks in a good mood so that the audience feels comfortable to listen to him/her. Second is similarity. Similarity indicates similar physically, origin, culture, education, fate, and so on. Similarity according to Goethals and Nelson (1973) will be effective in making decision personally and emotionally (Perloff, 2010:176). Third is physical attractiveness. She/he seems to be physically good looking. Jalaluddin Rachmat (2009:111) mentions self attractiveness such as likability, emotion.

Previous Research

In this part it will be discussed some researches that have the same issue. The first is a research was by Yudi Perbawaningsih (2012). The title is "About Elaboration Likelihood Model and Rhetoric Theory". It is a survey research. The finding is that effective persuasion is determined by message and non message. Peripheral factor plays very important role than the message itself. It is impossible to separate message with its source in persuasion. Both the message and the source of message are one. This research is supported by another research entitled "Source Factors and the Elaboration Likelihood Model of Persuasion" by Richard E Petty and John T Cacioppo (1984) found out that Elaboration Likelihood model is a model of persuasive communication. Message source is very effective in persuading audience. He will be powerful in his persuasion when his argumen is very strong and it will be weak when the argument is also weak.

3. Research Methods

It is a positivsm paradigm research. Truth is single and objective. Hypothesis is implemented as a temporary answer to the research question. This research is a quantitative research. Data were collected from questionnaires. Samples were taken from stratified random sampling. There were 200 students of Tarakanita became the samples of this research. Data were analyzed using Statistical Package for the Social Sciences (SPSS) 16th edition.

Data Analysis

In this part, there will be discussed the regression analysis starting from determining the hypothesis, specify the criterion to reject nul

hypothesis, statistical analysis, interpretation and discussion.

Hypothesis

- H0 : there is no positive and significant effect between source credibility (X1) and source attractiveness (X2) towards motivation to learn (Y)
- H1 : there is a positive and significant effect between source credibility (X1) and source attractiveness (X2) towards motivation to learn (Y)

Criterion

F test, to reject H0, the P-value of F test is <0.05

T test, to reject H0, the P-value of T test is <0.05

Statistical analysis

Table 1
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.534	.286	.278	1.84706

Predictor: Credibility and Attractiveness

Table 2
ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	271.331	2	135.666	39.766	.000
Residual	678.911	199	3.412		
Total	950.243	201			

Predictor: Credibility and Attractiveness

Table 3
Coefficients

Model	Unstandardized Coefficients		t	sig
	B	Std. Error		
(Constant)	4.733	1.218	3.886	.000
Credibility	.019	.018	1.036	.301
Attractiveness	.116	.028	4.155	.000

Dependent Variable: Motivation

Interpretation

Table 1 shows that there is a moderate relationship between teacher's credibility and attractiveness with .534. The effect of teacher's credibility and attractiveness towards the motivation to learn is 28.6%. It means that the change score of on motivation can be explained by the change of credibility and attractiveness

variables and 71.4% are caused by other components excluding in this research.

F test is used to see the effect of both variables towards the motivation. Table 2 indicates that the two independent variables give positive and significant effect to motivation ($\text{sig}.000 < 0.05$).

When further analysis is done, Table 2 indicates that the effect of teacher's credibility to motivation is only 1.9% with $\alpha = 0.301 > 0.05$. It means that teacher's credibility is not significantly influencing student motivation. Then, the effect of self attractiveness towards motivation is only 11.6% with $\alpha = 0.000 < 0.05$. It is indicating that self attractiveness gives positive and significant influence to the student motivation though it is too small (11.6%) whereas 88.4% are influenced by other factors.

4. Discussion

Tarakanita is a woman school. There are two study programs, communication science and secretarial training. It has been operating since 1968 for secretarial study program and since 2009 for communication science study program. There have been thousands of alumni graduated from this school especially from the secretarial study program. This campus is very popular because of its discipline and its quality. This campus is leading in producing competent secretaries and communicators. There are three main competencies, English language proficiency, Information and Communication Technology, and Secretarial skills or communication skills. This campus also equips its training by complete, high-end, and up-to-date learning infrastructure and facilities. The quality of alumni is supported by high quality lecturers. The organizational culture is also very unique. The first impression about this campus is clean, discipline, punctual, and neat. The lecturers are not always women. Its high quality alumni make this campus source of skillful human resources for national, foreign, and multinational companies in Jakarta and overseas. So that's why it is not balance between the supply and demand. The demand is higher than its supply. No wonder that there are no alumni who are unemployment. This condition might be one of the reasons why the students do not really care about teacher's credibility and attractiveness. Their motivation is not determined by whether the lecturers are credible or not or whether the lecturers are attractive or not but their motivation is the work itself. They decide to study in this campus to get a good job with high salary.

It is clear that credibility of the lecturer is only giving 1.9% to the students' motivation to learn. Their motivation is always high though the credibility of the lecturer is not really good. Lecturers are not the main factors to motivate them. It might be other variables such as the speed of completing the study since this school is campus for its high price. The second variable might be the promising job. They want to get a good job so that they may have a good income.

Lecturers' attractiveness is not the main factor for motivating students. It is only 11.6% of self attractiveness will influence the students motivation. In other words, it seems that the students do not really care about the lecturers' attractiveness which is divided into three attributes namely physical attractiveness, charisma, and reputation. One of the three is the charisma though it is also very small. It is only 21.7% of lecturers' charisma give positive motivation of the students, 9.1% of the physical attractiveness and 7.6% of the reputation.

Table 4
Coefficients

Model	Unstandardized Coefficients		t	sig
	B	Std. Error		
(Constant)	5.567	1.168	4.766	.000
Physical attractiveness	.091	.071	1.290	.198
Charisma	.217	.064	3.409	.001
Reputation	.076	.104	.729	.467

Dependent Variable: Motivation

5. Conclusion

The purpose of this research is to see the influence of source credibility and source self attractiveness towards students' motivation to learn. The research result shows that source credibility and source self attractiveness give positive impact to the students' motivation to learn (28.6%) but when further analysis is done, it is found out that the influence of credibility is only 1.9% and self attractiveness is only 11.6%. This statistical result indicates that the students of Tarakanita are always motivated to learn though motivation is not from their lecturers. There might be other factors that motivate students to learn at Tarakanita. In short, the research is informing that this research is supporting the previous research about source credibility and source attractiveness.

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ANALYSIS OF FACTORS AFFECTING DECISION-MAKING OF A JOB TRAINING PARTICIPANT IN CHOOSING TRAINING PROGRAM AT THE SURAKARTA VOCATIONAL TRAINING CENTER

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Abstract

This study aims to determine the effect of the external environment of friends and family factors in the decision making of a job training participant in choosing training programs; internal environmental influences which consists of the achievement of the target, another motif, and perceptions that influence decision making of a job training participant in choosing training programs. The method used in this study was a quantitative approach. The sampling technique was simple random sampling on the seven majors in the Surakarta Vocational Training Center. The number of samples of responden to the questionnaire were 352 respondents. Data was collected using questionnaires and interviews, while the processing of data was editing, coding and tabulating.

The result of this research is the external environment was not significant influence on decision making of a job training participant in choosing training programs at Surakarta Vocational Training Center; internal environment consists of the achievement of objectives, other motives and perceptions significantly influence decision making of a job training participant in choosing training programs.

Keywords: decision making, vocational, external environment, internal environment.

1. Introduction

In the current era of globalization every organization both profit-oriented and non-profit, should respond to the changes of environment. Globalization has a broad impact, not only on the economic sector but also affecting the education sector. Future employment challenges increase heavily and more complex. Availability of employment opportunities in accordance with the level of workforce education increased in line with the opening of the free market. So, it was be mandatory to improve quality in order to compete in the international market and domestic market [1]. Improving quality of labor is done by holding a job training that aims to improve and develop competence, productivity, discipline, attitude, and work ethic at a certain level of skill and expertise and qualifications in accordance with the level of office or employment. The Association of Southeast Asian Nations (ASEAN) concentrates its emphasis on regional cooperation on security, sociocultural and economic integration with ASEAN Economic Community (AEC) by 2015. Establishing the AEC creates additional values in regional scope such as a common market economically connected through the basis of consistent

production, free trade investment, capital transfer, labor market based on common and same for all ASEAN member countries. By 2015, ASEAN will have become a community. In place of ten heterogeneous labor markets there will be a large labor market in which nations recognize one another's qualifications [2].

Vocational training programs should be developed base on labor market demands and needs of the industry. Thereby industry will get advantages directly when hire competent worker from vocational training programs. If the graduates have a high quality, the industry will get benefits directly, because at initial time of recruitment, industry no need to spend more cost to provide industrial training. Therefore it is proper if the industry has a responsibility to care, concern and take charge together with vocational training institutions.

Vocational education provides services to job seekers to reduce skill gaps, therefore the quality of vocational training institutions should match with the needs of the working needs. Recognizing the importance of the external and internal environments of individuals in vocational training and in view of the keen competition for trainees, the management of vocational institutions is also required to respond

proactively and read the opportunities and wishes of prospective workers as their service users. Such enormous environmental changes also have an impact on changing the fundamentals of vocational management. The Training Center needs to consider a new approach to managing the vocational education management system. These demands are reinforced by the implementation of the Training Center revitalization program through accreditation that provides standards for the management of vocational training institutions according to the needs of stakeholders.

The competition between vocational institutions was not only occurring between Vocational High School (SMK) and Vocational Training Center (Balai Latihan Kerja), but greater competition occurs between the Vocational Training Centers. Therefore the Training Center needs to pay attention to the external and internal environments of individuals to win the competition. Similarly, the Surakarta Vocational Training Center seeks to win the competition with other Vocational Training Centers. With a vision of "Being a leading job training institute according to the needs of industry and global labor market". And mission "Creating a competent, disciplined and ethical workforce through training, empowerment, and labor competency certification.

To gain the excellence of the institution with the policy, leadership and good / reliable management were built seriously to improve the training resources. Good management begins by increasing training resources consisting of infrastructure, facilities, equipment, machinery, equipment and more. Thus the trainees will get a conducive and fun learning environment. They can get what they need such as proper training programs, competent instructors, adequate equipment and learning tools, a classroom / workshop and a comfortable learning environment, and were supported with adequate information and communication. Thus they will feel satisfied studying at the Surakarta Vocational Training Center. Satisfied training participants will tell others about the excellence of practicing in Surakarta Vocational Training Center that will eventually create a good impression in the community as well as on the stakeholders. Stakeholders will conclude that we have a superior training institution. Then they will not worry about establishing cooperation with us.

From the description above defined problem statements as follows.

1. The influence of the external environment on decision-making of trainees in selecting training programs.
2. The influence of the external environment on decision-making of trainees in selecting training programs.
3. The influence of the external and internal environment on decision-making of trainees in selecting training programs.

2. Methodology

The method used in this study was a quantitative approach. The sampling technique was simple random sampling on the seven majors in the Surakarta Vocational Training Center. The number of samples of responden to the questionnaire were 352 respondents. Data was collected using questionnaires and interviews, while the processing of data was editing, coding and tabulating. Primary data were derived from observations, and conduct focus group interviews with trainees. Secondary data were obtained from websites, policy documents, curriculum and syllabus documents and teaching materials.

Population in this research was all candidate trainee Batch I of year 2017 as many as 1264 people registering at 7 department. To determine the number of samples, used the formula of Sevila [3] as follow :

$$n = \frac{N}{1 + N(e)^2}$$

Where :

n = sample quantity needed

N = population amount

e = The percentage of sampling errors that can still be tolerated by 5 %

ased on the above formula, the minimum sample quantity to be taken is as follows:

$$n = \frac{1264}{1 + 1264(5\%)^2} = 303,84 = 304 \text{ trainee}$$

In this study the number of samples used were 16 trainees from 7 vocational, total 352 trainees.

The study use qualitative and quantitative data analysis. To answer the problem identification used correlation analysis. Correlation analysis was used to know the relationship between variables X 1 and X2 to variable Y expressed in double correlation coefficient (r). Because of the data interval, then the correlation analysis used is the product moment correlation. According Sugiyono the

formula is as follows [4] :

$$r = \frac{n \sum XY - \sum X \sum Y}{\sqrt{\{n \sum X^2 - (\sum X)^2\} \{n \sum Y^2 - (\sum Y)^2\}}}$$

where,

X = total score of answers to external environment or internal environment

Y = total score of decision-making answers

r = correlation value

n = The number of respondents in this study was 352 people

After the relationship between each variable was obtained, then the three variables are reconnected, to find the influence of two independent variables to the dependent variable that is variable X1, variable X2, to variable Y is used double correlation (R_{yx1x2}) with the following formula:

$$R_{yx1x2} = \frac{r^2_{yx1} + r^2_{yx2} - 2r_{yx1} r_{yx2} r_{x1x2}}{1 - r^2_{x1x2}}$$

Where,

R_{yx1x2} = Correlation between variables X1, variable X2, together to variable Y

r_{yx1} = Product Moment Correlation between X1, with Y

r_{yx2} = Product Moment Correlation between X2, with Y

r_{x1x2} = Product Moment Correlation between X1, with X2

To find whether the correlation coefficient can be generalized or not, then it must be tested its significance with the formula :

$$F_h = \frac{R^2 / k}{(1 - R^2) / (n - k - 1)}$$

Where,

Fh = Multiple correlation coefficient

k = Number of independent variables

n = Number of samples

In double correlation and then followed by double regression, this aims to see the level of influence if there is a change of independent variables to the dependent variable with the formula:

$$Y = a + b_1X_1 + b_2X_2$$

Where,

Y^{\wedge} : Multiple regression

a : Constants or when value X = 0

b1 : egression coefficient independent variable external environment

b2 : Regression coefficient independent variable internal environment

X1: The value of the independent variable X1

X2: The value of the independent variable X2

Training Programs in Surakarta Vocational Training Center.

Public non-formal vocational training providers (known as Balai Latihan Kerja / BLK), that are under the responsibility of district governments or Ministry of Manpower and Transmigration, provide training programs for poor individuals who dropped out of primary or secondary school [5]. BLKs are also divided into 3 types:

1. Type A (largest training providers located in urban areas)
2. Type B (training providers located in smaller urban centers)
3. Type C (the smallest training providers located in rural areas)

Larger centers provide industrial and service skills training, while smaller ones offer training in different technologies and skills for self-employment. There are 4 types of training offer by BLK:

1. Institutional training (job training programs which aim to increase the skills of job seekers)
2. Non-institutional training (training programs for people in remote areas organized through Mobile Training Units)
3. Apprenticeship programs
4. Demand-based trainings (trainings based on the demand of industries)

The success of vocational training can be measured from the absorption rate of graduates in the work market. If graduates have the capabilities as required work market, it can be said vocational institution learning process have direct and prepared learners for entrance work market. To achieve this, vocational training provider, i.e. BLK, always improved the quality of learning through the curriculum in accordance with the demand of job markets [6].

Four types of training that be held in BLKs will succeed attempts aiming at measuring training provided by the employers tend to focus on formal training only and to neglect therefore the informal learning processes we can approach informal training using information on whether

young workers declared they learnt their job on their own, and not through the three other forms of training. The apprenticeship in a large firm is another form of formal training, with traditional apprenticeship [7]. The categorization of vocational education and training was described in Figure 1.

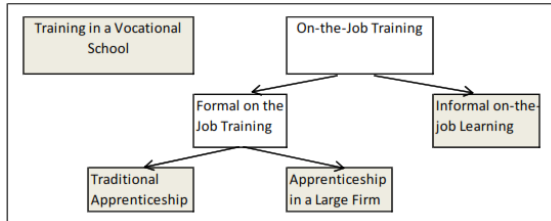


Figure 1. Categorization of vocational education and training

Vocational Training Curriculum

Vocational training curriculum must accommodate all of the needs of both the physical needs of learners, non-physical, and moral as well as their future to be able to live a safe, comfortable, good welfare, and harmony with nature and the surrounding communities. On the other hand based vocational training curriculum needs matching with job markets (demand-driven by job markets). The emphasis was on the mastery of the competencies required by industry job markets [8]. The world of work requires seven basic skills as follows [9]:

1. Critical thinking and problem solving.
2. Collaboration across networks and leading by influence.
3. Agility and adaptability;
4. Initiative and entrepreneurship.
5. Oral and written communication effectively.
6. Accessing and analyzing information.
7. Curiosity and imagination.

Competent graduates must have good fundamental skills and generic work skills. General skills consist of basic skills, thinking skills, and personal qualities [10]. Basic skills include listening skills, reading, writing, speaking, and math. Thinking skills include how to learn, how to create and solve problems, and make decision. Personal qualities affect in the form of responsibility, integrity, confidence, moral, character, and loyalty. Theoretically, the basic skills will support and become foundation of development individual career. Vocational training curriculum development, teaching and learning should provide a sufficient portion for the development of basic skills. Over fundamental skills were built generic work skills,

industry-specific skills and company/employer specific skills as shown in Figure 2.

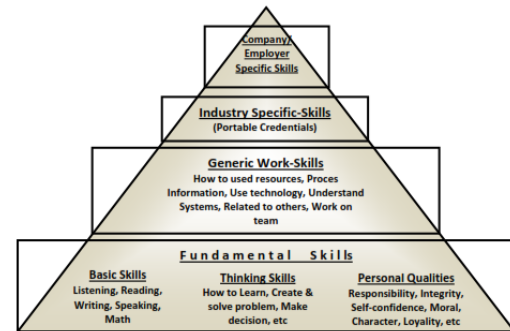


Figure 2. Structure development of vocational education and training skills

Competency-based curriculum can be developed with a “field research” or a “benchmark, adopt and adapt” as well as a combination both of them [11]. Field research done by conducting research in the job markets to collect primary data on the jobs that exist and then formulated into a draft of competency standards, validated, tested, reviewed, and establishment. Benchmark, adopt and adapt was a way to study and compare the standards of competence which has existed in various developed countries or develop the required standards adopted and adapted to the needs. After passing the validation, testing and reviewing, these standards could be set as the first edition of the competency standard. This combination approach was to combine the two methods above, to reduce weaknesses and improve the advantages of both methods.

President Decree No. 8, 2012 for Indonesian Qualification Framework has been a basic rule to develop competency based curriculum matching with job level in various industry. IQF consists of nine (9) qualification levels. Stage of levelling up of IQF can be shown in Figure 3.

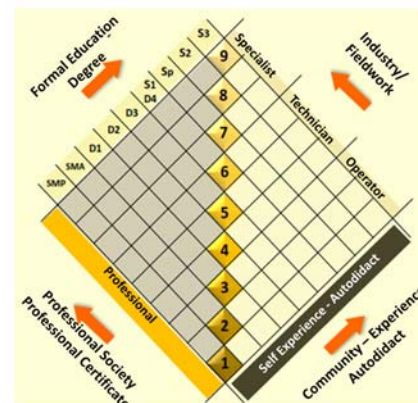


Figure 3. IQF Levelling up stage

Each BLK has develop its own programs base on levelling of IQF appropriate with its district characteristics. Now, some of BLKs type A (large training provide) try to standardize training program which be held in BLKs. Curriculums were be derived from these programs. The structure of each core training programs consists of eight parts: (1) training program tittle, (2) training program code, (3) training program level, (4) goals, (5) list of unit competence, (6) duration of training, (7) trainee pre requirement, (8) instructor requirement. Over 80 training programs at BLK are now listed in the field of creative industry, business and management, automotive, electrical, construction, welding, information technology and manufacturing technology [12].

In general, vocation training programs in BLKs can provide competent workforce until level 5 which able to complete the work in extensive scope, select the appropriate method from various options. In managerial competency, able to manage group work and prepare a comprehensive written report. Training duration vary from 40 hours (equivalent with 1 weeks), 160 hours (equivalent with 1 month), until 640 hours (equivalent with 7 months). Trainee education requirement as a pre requisite vary from elementary school (SD), junior high school (SMP), senior high school (SMA/SMK), Diploma and Bachelor. It means, vocational training programs with Indonesian Quality Framework scheme were a flexible process in giving competency recognition.

Factors Affecting the Selection of Training Programs

Decision-making in choosing a training program at the Surakarta Vocational Training Center was not only based on rational economic reasons, but there were some other influences that follow the consumer's decision process. The decision to choose a training program was essentially the same as the decision to become a buyer in the purchase of goods. Consequently, the theory of consumer decision-making as well as many experts in the study of consumer behavior becomes relevant to explain the decision-making process of trainee candidates to select training programs.

The individual environment both external and internal was the deepest part (core) of consumer behavior. Consumer behavior was defined as a direct action in obtaining, consuming, and depleting products and services including the preceding decision process and the completion of such actions [3]. While Engel

argues that consumer behavior as the actions of individuals who are directly involved in the business of obtaining, using and determining economic goods / services, including the decision-making process that precedes and determines those actions [13]. Consumer behavior was the activities of individuals who are directly involved in obtaining and using goods and services, including in decision-making processes in the preparation and research of such activities. Consumer behavior varies by segment, for it is used common variables that have been stated in many marketing books that have been recognized credibility. Individual consumer environment was a general condition or condition around the consumer that's natural. This environment has unique characteristics, which in such a way can affect or be influenced.

From the above definitions are obtained two important things from consumer behavior, namely the decision-making process and physical activity in an effort to assess, obtain and use goods and services economically. Each individual has different behaviors in fulfilling his needs and wants. There are several factors that mempengaruhi behavior as follows [14] :

- Culture, cultural factors have a broad and deep influence on behavior, among them are cultural roles, sub-cultures and social classes of buyers.
- Social, included here is a reference group, family and role and status.
- The personal characteristics, which include here are the age and stages of the life cycle, occupation, economic circumstances, lifestyle as well as the personality and self-concept of the buyer
- Psychological, which includes their motivation, perception, knowledge, stance and beliefs.

Clearly, the four factors that influence consumer behavior were seen in figure 4 below :

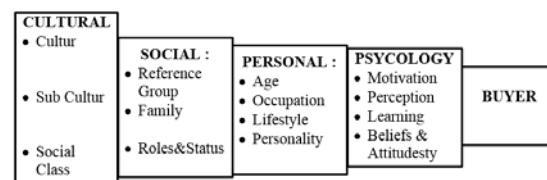


Figure 4. Factors that influences behavior.

The reference group consists of all groups that have a direct and indirect influence on one's position or behavior. Family members were the most influential primary group on the decision to

use a service. Role / status was the position of a person in each group.

The internal environment in this case was a psychological factor that includes motivation, perception of learning and attitude. Motivation acts as a driving force within the individual that drives an action. Action or action is a process that involves perception. Perception is a process within the individual to select, organize and interpret information to form a meaningful product picture. The act of choosing will also be influenced by past consumer experiences. This experience leads to a learning process. Learning was a change in the behavior of an individual that comes from his experience. Attitudes were the evaluation, emotional feelings and tendencies of a favorable or disagreeable and long-lasting action of a person against some object or idea

Surakarta Vocational Training Center should pay attention to the internal and external environment of the individual, so that the negative impact of student decision making in choosing the department can be minimized and avoided, thus the students feel satisfied with the services offered. To find out the trainee's wishes, the Surakarta Vocational Training Center should have extensive knowledge of the behavior of its trainees.

Consumer behavior is a study that studies how an individual makes the decision to spend on existing resources (time, money) to meet his needs including what to buy, why they buy, when they buy, where they buy, how much they buy And how long they will use it [15]. So thus there are two important elements of the meaning of consumer behavior that is 1) decision-making process and; 2) physical activity, all of which involve individuals in assessing, obtaining and using goods and services.

Based on the above framework, hypothetical formulation can be formulated: External environment (Family, role / status and reference group) and Internal Individual (Motivation, perception of learning and attitude) attitudes towards the decision maker In selecting training program.

3. Discussion

Before discussing the effect of X1 variable (external environment) and variable X2 (internal environment) to variable Y (decision of trainee in choosing training program at Surakarta Vocational Training Center), will be reviewed

descriptively result of questionnaire in order to give more comprehensive picture about The object under study.

The external environment consists of reference (Friends and Family) and Roles / Status. Based on the description of the respondent's response to the statement regarding the External Environment consisting of the Reference Group (Friends) and (Family) and the Role / Status on the questionnaire then all responses can be averaged into the form of the following average table

Table 2. Average Respondents Response to Positive Statements Regarding External Environment

External Factors	%					Total
	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree	
Friends	23,30	26,70	29,26	7,39	13,35	100
Family	24,43	32,39	26,14	9,38	7,67	100
Roles & Status	32,67	26,99	24,43	9,38	6,53	100
Rata-Rata	26,80	28,69	26,61	8,71	9,19	

Based on table 1. regarding the average of respondents' responses to positive statements about the external environment, almost half of respondents stated strongly agree (26.80%) and agreed (28.69%). This indicates that the external environmental factors influence the decision making in choosing the training program at the Surakarta Vocational Training Center.

The internal environment consists of Achieving Goals, Other Motives, Perceptions (Targets and Situations), and Learning (Information and Attitudes) Based on the description of respondents' responses to statements about the internal environment, all responses can be averaged into the following average table form this internal.

Table 3. Average Respondents Response to Positive Statements Regarding Internal Environment

Internal Factors	%					Total
	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree	
Motivation	39,77	28,41	22,73	5,68	3,41	100
Perception	36,36	37,78	21,02	1,99	2,84	100
Learning	32,95	33,81	21,59	4,55	7,10	100
Beliefs & Attitudes	32,67	39,49	16,76	6,53	4,55	100
Rata-Rata	47,25	46,50	27,37	6,25	5,97	

Based on table 2. about the average of respondents' responses to positive statements regarding the decision of choosing majors, the majority of respondents stated strongly agree (47.25%) and agree (46.50%). This shows that decision making in choosing a training program

at Surakarta Vocational Training Center is quite steady

Based on the calculation results obtained by multiple regression equation:

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	
1	.486 ^a	.236	.108	1.17650	.236	1.851	2	12	.199	

a. Predictors: (Constant), X2, X1

ANOVA					
Model		Sum of Squares	df	Mean Square	Sig.
1	Regression	5,124	2	2,562	.199 ^a
	Residual	16,610	12	1,384	
	Total	21,733	14		

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Coefficients									
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
Model									
1	(Constant)	3,930	1,723		2,280	.042			
	X1	.618	.354	.477	1,747	.06	.485	.450	.441
	X2	-.054	.671	-.022	-.080	.938	-.203	-.023	-.020

a. Dependent Variable: Y

The regression equation was : $Y = 3,930 + 0,618X1 - 0,054X2$

Meanwhile, the relationship between X1 and X2 together to Y is $r = 0.486$ and the effect of X1 and X2 together with Y is: $r^2 = 23.6\%$ (significant). So the research hypothesis was accepted.

The partial effect of X1 to Y is not significant, and the influence of X2 on Y signifies that the internal environment has an effect on the participant's decision in the selection of training program at Surakarta Vocational Training Center.

4. Conclusion and Suggestion

From the discussion results can be concluded :

1. From the results of the study found that the variables X1 (external environment) and variable X2 (internal environment) together affect the variable Y (decision making in choosing training program).
2. Partially, the variable X1 (external environment) was not significant effect on the variable Y (decision making in choosing a training program)
3. Partially, the variable of X2 (internal environment) significantly influences the variable Y (decision making in choosing the training program) means the greater the internal environment (eg. motivation in itself / motivation), the more determined in choosing the training program.

Given suggestions:

1. From the research result, the family environment (father and mother) is quite

dominant in influencing the potential trainees in choosing the training program. Therefore, the promotion should be done by the agency does not neglect the parents as the object.

2. From the results of the research turns out motivation factor was a dominant factor in influencing new student candidate in choosing training program especially attitude factor. Therefore, the promotion should be done by the agency to be more to self-awareness of the need for expertise and work competence in each training program.

ACKNOWLEDGMENT

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AN ANALYSIS OF LEARNING STRATEGY AND AUTHENTIC ASSESSMENT: (THE IMPLEMENTATION 2013 CURRICULUM IN PRIMARY SCHOOL)

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Abstract

This aims of this research to describe learning strategies used in primary schools suitable with the implementation of the curriculum in 2013 (2) analyzing authentic assessment used by teachers in curriculum implementation in 2013 (3) provides solutions strategy and the creation of an effective authentic assessment in primary schools. This research is a qualitative descriptive research. Respondent was carried out in the fifth grade primary school district Bangkalan. with school samples as many as 10 schools. Data collection techniques used were observation, interviews, and documentation. Based on observations result, learning strategies often used is problem solving, and inquiry. Both of them make children think critical. The results of the interviews conducted, the implementation of the curriculum in 2013 also experienced some constraints in the assessment. Only 40% of respondents said that implementation authentic assessment is effective. 60% of respondents said that authentic assessment in primary schools are constrained from the type of assessment that is in accordance with the instructional objectives, not according with prior knowledge, and requires a lot of time. Based on the results, that the learning strategies appropriate to the curriculum in 2013 that is strategy-based issues such as problem solving. In accordance with the purpose of learning, it takes a lot of time. So the learning assessment process is more effective and efficient.

Keywords : Learning Strategy, Authentic Assessment, Primary Education

1. Introduction

Asean Economic Society (MEA) should improve the quality of education in order to meet the needs of learners to live in society during the competition with foreign nations. Competition in the world of work with foreign nations competitors can not be denied, where the Indonesian people are still minimal creativity and innovation in the work. In harmony with this, it is necessary to improve the improvement of education especially learning. The skills that should be formed in the learners are: 1) cooperative skills, 2) communication skills, 3) creativity, 4) critical thinking skills, 5) skills of using information technology, 6) numerical skills, 7) problem-solving skills, 8) self-organizing skills, and 9) learning skills. Through these skills, Indonesia is expected to compete with other nations in the work.

One indicator of the achievement of Education in our country with the implementation of the Curriculum effectively. The implementation of Curriculum 2013 is expected to generate productive, innovative and affective creative human resources through the

strengthening of attitude, knowledge and skill competence (Puskurbuk, 2012). To achieve these objectives, the curriculum emphasizes the scientific learning process that embraces the paradigm of constructivism. Thus the students are expected to understand the concept so that the learning process can enter in longterm memory and students can understand the essence of learning.

The thing that makes a striking difference between the 2013 curriculum and the previous curriculum is the emphasis of the learning sphere. The 2013 curriculum emphasizes educational processes that are touching on a wider range of cognitive, affective, and psychomotor domains. The 2013 curriculum classifies it in four core competencies: social attitude competence, spiritual attitude, knowledge, and skills. In this way, the potential of students other than the cognitive domain can also be developed.

The role of learning strategies in achieving curriculum goals has a very important. Learning strategy consists of all components of learning materials that will be used to assist students in achieving learning objectives (Gropper, 19).

Teachers do not just master Rules and principles of teaching, but more importantly integrate and construct those rules to form a more memorable learning strategy in their learning.

In addition to the role of strategy, assessment has a major role in determining educational success. Good judgment has an impact on the learning process (Popham, 2009, p.13) and serves as a reference to its next policy (Mardapi, 2008, p.5). The accuracy of the selection of assessment methods will greatly affect the objectivity and validity of the results of the assessment, whose end is objective and valid information on the quality of education. Conversely, errors in choosing and applying the assessment method also impact on invalid information about learning outcomes and education.

Implementation assessment in the 2013 Curriculum more complexity than the previous curriculum assessment system. Although the government has prepared teachers through various trainings, there are still many complaints that appear in the field regarding the assessment. Allen & Friedman (2010) states that the most complex of learning is the integration of furniture-the teachings of the various domains of cognitive, behavior, and feelings. According to Retnawati (2015, pp. 398-400) one of the aspects that obstacles the implementation of the 2013 curriculum is a complex assessment system and it takes a long time to compile the report. The really new thing is the attitude assessment, where the judgment is the majority complained of by the teacher because it is considered difficult. Retnawati (2015, p.400) states that one of the biggest obstacles in the assessment is attitude assessment. The teacher's insight in choosing the right method and developing the assessment instrument is lacking.

Given the importance of good assessment in support of curriculum implementation, there should be a review of how the implementation of the strategy and assessment of the Curriculum 2013 in the field. Specifically, the objectives of this study were to: (1) describe the relevant types of learning strategies used in the 2013 curriculum, (2) to obtain facts and figures in the field of implementation of the assessment in the Curriculum 2013; (3) identifying constraints (constraints) and success factors for the implementation of the assessment in the Curriculum 2013.

2. Method

This research is an explorative descriptive study that describes and reveals the learning

strategy used and the implementation of the 2013 curriculum assessment in primary school. Population in this research is class V primary school in Bangkalan regency. Determination of samples by purposive sampling, 20 schools in Bangkalan District consisting of SDN in Kamal, Socah and bangkalan areas.

Data Collection Techniques were collected using questionnaires, and observations. The scope to be explored in this research activity are (1) techniques and assessment instruments (including the types of assessments and measured competencies); (2) assessment mechanisms and procedures undertaken by educators and; (3) the suitability of instructional strategies applied by educators in relation to the implementation of the curriculum 2013.

The various data collected were then analyzed by quantitative or qualitative descriptive approach developed by Miles and Huberman. Miles & Huberman's (1994, p.12) analysis of the stages of qualitative data analysis are data, reduction, display, and conclusions. The analysis process starts from the data recap, the data reduction involves simplifying the data by sifting through the data needed. The data of the reduction is classified according to the design of the analysis that has been designed and then in the Display After the data display has been verified then taken conclusion.

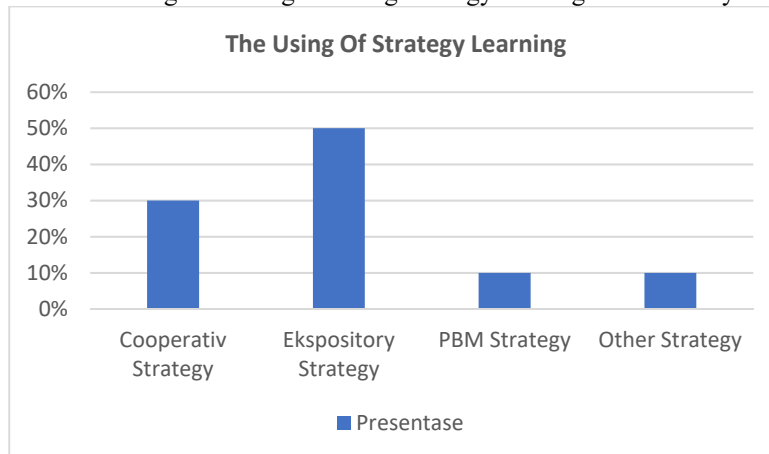
3. Result and Discussion

Planning Stage

Planning stage is the activities undertaken by the teacher before the implementation of strategy development and assessment done. Planning is a very important initial concept and supports the smooth assessment process. Learning and Assessment Structure in Curriculum 2013 is relatively complex and complicated so that without good preparation, the implementation of learning process will be disrupted. Teachers should develop instructional strategies relevant to the application of a scientific approach to learning. Design and develop assessment instruments based on competencies to be achieved. Teachers are required to be able to develop assessment instruments that can measure students' abilities according to the learning objectives.

In the research process identified the efforts of teachers in seeking the development of strategies that appear in the planning of learning. The results showed that 50% of primary school teachers use Direct instructional strategies, and Cooperative Learning as a form of implementation of the 2013 curriculum.

Tabel 1. Percentage Of Using Learning Strategy In Bangkalan Primary School



In relation to the assessment techniques used in the lesson plan, few conduct the assessment

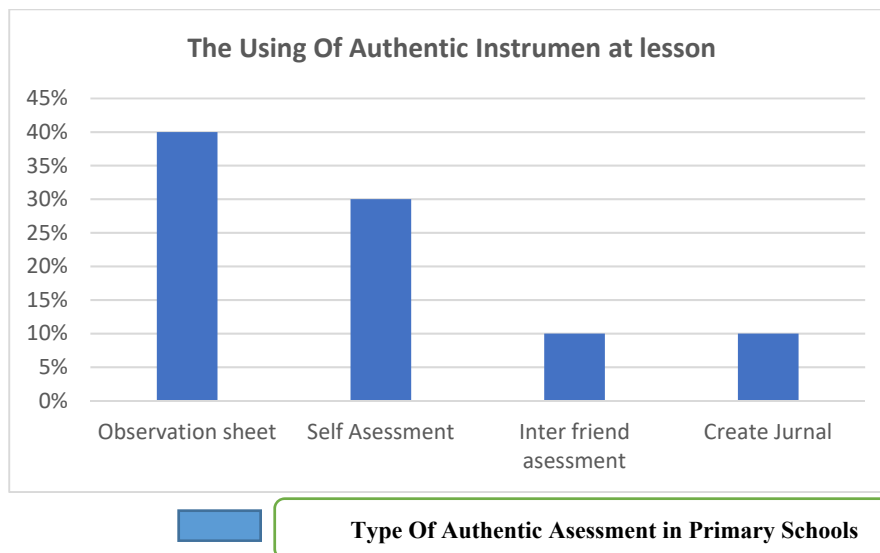
instrument analysis (based on empirical data) on formative evaluation, in addition the teacher does not analyze the learning achievement instrument that meets the substance, construction, and language requirements is also relatively small. The absence of instrument analysis process also shows that there is no revision process. The type of assessment used is still in the dominance of written tests. Though

clearly emphasized, Curriculum Values 2013 more emphasis on authentic assessment with bergam types and techniques.

Implementation Phase

Implementation stage is a phase of strategy implementation and assessment based on planning that has been prepared by the teacher. The result of the observation shows that the attitude assessment conducted by teachers in the classroom is relatively small, especially by teachers of elementary school teachers.

Tabel 2. Percentage Of Using Authentic Instrument at Lesson In Bangkalan Primary Schools



Based on observation result, we can show that some primary school in Bangkalan district still implement authentic assessment not yet. From the table above, we can describe that approximately 40% teachers who conduct

authentic assessment observation sheet, than only 30% attitude competence assessment with self assessment sheet. than assessed attitudinal competencies with a 30% inter-friends assessment, and who conducted an attitude

competency assessment by creating a 30% journal.

Learning strategy planned in RPP. Cooperative strategy implemented well, direct instructional strategy also still dominated expository strategy. The 2013 curriculum emphasizes the ability of children to think critically based on a scientific approach. So it is not appropriate if expository strategies used by teachers when implementing learning in the classroom.

The various problems that occur in the atmosphere lead to a conclusion that the teacher's insight is lacking in the judgment technique. Teachers are still unable to choose an objective assessment technique effective and efficient. When the teacher is able to choose the right technique then the assessment process will be accomplished with better without adding a significant burden on the teacher so that it interferes with his role as a learner facilitator in the class.

Especially for elementary level there is a thematic learning that can combine several subjects in one particular theme. It was found that there are still many elementary school teachers who complain that it is difficult to conduct thematic assessment. To anticipate the problems that occur in the implementation process of Curriculum assessment 13 on elementary thematic learning, it is necessary to have training or workshop for elementary school teachers on thematic learning assessment. In the assessment of thematic learning, the important thing to note is the clarity of the competition that will be measured, so that later because it also clearly measures what we want to measure or the matter is valid.

Reporting Stage

FGD findings show that many teachers face problems in report generation, especially in the use of the 1-4 range value. Teachers face problems because no conversion table has been created on Governmental Rules to convert the range from 0-100 to a range of values 1-4 on the assessment of knowledge and skills. For science teachers, especially in mathematics, the value conversion process is not a complicated issue. However, for IPS subject teachers, the value conversion process is a major obstacle. Thus, the availability of a standard table for conversion or an IT-based student who can assist in the conversion of values is necessary.

Value scales impact not only on teachers but also on students and parents. Implementation of a 0-100 range that has been running for a very long time makes the parent accustomed or even the value is already identical to the scale. The

readability of values with new ranges is a matter of concern because parents have difficulty in representing the meaning of value symbols in the report card. Many parents propose reporting to return to the 0-100 value range. Thus, schools have a central role in educating parents about the new appraisal system so that parents can properly access information on the report card.

A report card is the end product of an assessment. The report card contains a student's compilation capability. The format of the 2013 curriculum report card also differs from the previous curriculum. Ten informants agreed that the Curriculum report card 2013 is complicated. The report card is filled with descriptions of student learning outcomes. The making of descriptions is the problem. There are still many teachers who are not used to writing so that the process of writing the description seemed complicated and requires a relatively long time.

Writing report cards involves classroom teachers. Collaboration is often constrained because of mutual waiting. The writing pattern of the report card in general is the subject teacher describes the value and submits the result of the assessment. Such conventional systems are not effective in time and effort. Many teachers complain about the system because it is very draining. It takes a system that can facilitate teachers in writing report cards. The efficiency of time and energy is the focus of need. Teachers need a system that can link between the judges and the eagle in one bundle of report cards with ease.

4. Conclusion

Based on the results of data analysis and discussion can be concluded as follows. First, at the planning stage, there were many teachers in the field who did not understand about: the grid problem and its usefulness, also analyzed the inquiry and created scoring guidelines or rubric of description. The use of learning strategies does not reflect problem-based learning with a scientific approach. Secondly, at the implementation stage, it was found that many teachers have difficulties in implementing assessments in the Curriculum 2013, especially difficulties in attitude assessment, and judgment of thematic learning, as well as difficulties in analyzing assessment instruments and revised items. The strategies teachers use in learning are still conventional. The method of learning is more emphasized on talking various method. Thirdly, in the field of reporting, it was found in the field that many teachers experienced difficulties in reporting using a range of values 1-

4 on the assessment of knowledge and skills, scores 1-4 on the scale difficult to read by parents, and the difficulty of writing the report card.

The suggestions as an alternative way to overcome various problems in the implementation of Curriculum 2013 as follows. To solve the problem in the planning phase it is suggested to the Head of Schools, teachers and the Education Office to socialize and train the first lattice to make the problem instead of the opposite, also the analysis of the analysis of the instrument and also make the rubric Or scoring guideline for a simultaneous description of the problem as they make their case.

Repairing the various problems in the implementation phase, it is suggested that teachers, principals, and education offices to create and simplify assessment guidance in the Curriculum 2013, need to be given appropriate assessment techniques training on thematic lessons, and guide teachers to perform instrumental analysis activities and revise items As well as training the use of a scientific approach.

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HISTO: INNOVATION CHARACTERS EDUCATION MEDIA OF LOVE THE MOTHERLAND IN ELEMENTARY SCHOOL STUDENTS

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Abstract

History is crucial to study. National history learning contribute positively towards the integration of nations. The function of the study of history as a moral education, reasoning, politics, policy changes, and the future. The younger generation is becoming a necessity to find out about the history of the nation of Indonesia. Elementary school students have gained historical material on the subjects of IPS and PKn. Submission of material history typically delivered with a method of speaking engagements or in the form of full text, which tends to make students feel bored. In the current era of technological advancements, increased rapidly. The utilization of technologies as media of education are familiar. Based on that, there is the idea in media education called HISTO as media introduction of the history of Indonesia in elementary school students. HISTO is a media education developed from software flash. The advantages of flash software including easy-to-operate, an interesting look, and the material becomes more easily understood. HISTO designed by optimizing the capability of understanding the history of Indonesia in effective and fun. There are two main menu in HISTO, namely SINAU and DOLANAN. SINAU menu contains material of history for elementary school students, for example the chapter material imitation figure and the chapter on history, while DOLANAN menu contains material relating to the game history on the menu of SINAU. The method of collecting data uses review of literature. HISTO is innovative and effective media in an effort to improve the quality of the young generation to love the nation of Indonesia through history education.

Keywords: Characters, Elementary School Students, HISTO, Media

1. Introduction

Love of the homeland and the nation is the sense of pride being part of the motherland and the nation who eventually want to create something that makes land and her people. Love the motherland or nationalism is a sense of pride, a sense of belonging, a sense of honor and cherish, a sense of loyalty that is owned by any individual in the country where he lived that is reflected in the behavior of defending his homeland, safeguard and protect his homeland, willing to make sacrifices in the interest of the nation and the country, loves the customs or culture of the country with their preservation and preserving nature and the environment. The younger generation as the next generation of the nation even used on other cultures which do not reflect the identity of the nation. History is crucial to study. Study the history of which functions as a moral education, intellectual, political, policy changes, the future, the beauty, and the science of AIDS (Sartini, 2011).

The educational material of history are able to develop the potential of students to get to know the values of a nation that was championed in the

past, maintained and adjusted to the life of the present, and further developed for the life of the future. The purpose of history education on secondary basic education gives signs about the selection of historical events to be subject. With these signs then selected historical events should provide awareness to students about this nation, values that championed the unification of the nation, is experiencing the various challenges and obstacles but can always be resolved properly. (Hasan, 2012)

Pedagogical strategy history of Indonesia is still very weak. History education in schools is still dwelling on approaches that tend to demand a child to recite the entire occasion. Students are not conditioned to interpret an event in order to understand the dynamics of a change. The teaching system is one of the things that are important in the process of learning history. The teacher's role is very important in attracting students to learn them. The subject matter is generally concerned the history of human life in the past, therefore teachers are required to be able to pack the material history lesson with a good and fun (Alfian, 2011).

Child Protection Commission of Indonesia (KPAI) States, violence on children is always increased every year. The results of the monitoring of KPAI from 2011 to 2014, there was significant improvement. "The year 2011 going 2178 cases of violence, 2012 there is 3512 cases, 2013 there is 4311 cases, and 2014 there is 5066 cases, "(kpai.go.id, 2015). This has to be one of the evidence that the character to keep order of the community is still low, and became one of the evidence has not yet been effectively history education in Indonesia.

2. Data Analysis

Research Design

This research is a descriptive research. Descriptive research is one of the type of basic research to describe phenomena, include non-fiction or fiction (Sukmadinata 2012:72). The purpose of this research is to make sistematic, factual, accurate descriptive about facts and characteristic of population in the certain object.

The steps in this research are (1) to identificate the significant problem to be solved (2) to limit and formulate the problem (3) to determine purpose and objective of the research (4) to do review literature (4) to collect, organize, and analyse the data with relevant statistic technique

(6) to make research report.

Subject of the Study

Research published by kpai.go.id shows that cases of violence on the always increasing every year. The results of the monitoring of KPAI from 2011 to 2014, there was significant improvement. "The year 2011 going 2178 cases of violence, 2012 there is 3512 cases, 2013 there is 4311 cases, and 2014 there is 5066 cases,

Method of Collecting Data

The method of collecting data uses review of literature. It is one of the method of collecting data with accumulating and analysing documents, includes written, pictures or electronic documents. The following figure is the review of literature of the study.

Steps of the Study

Steps of the study from this research are planning, doing, and collecting data.

Planning

In this research, the research collects and learn literature books which relate to the

problem. Those books are book of the history book and flash software. Moreover the researchers search data to internet and collect the related theories.

Doing

In this step, the data has been collected to be corpus. Then, the researcher do a electronic study to test the accurate of corpus. After the testing step done, its result become the main data.

Collecting Data

In this research, researchers arrange and process of main data, then clarify it based on the character of value.

3. Discussion

The result of this research is the application named HISTO which are used to innovation characters education media of love the motherland in elementary school students. The Following is a flowchart from HISTO application.

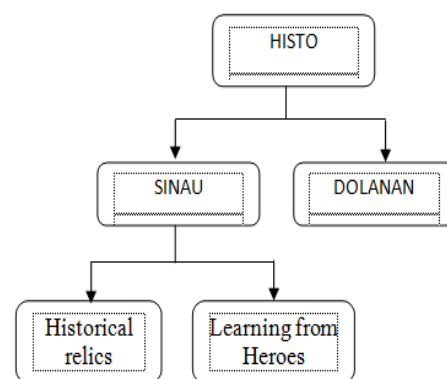


Figure 1. Flowchart of HISTO Application



Figure 2. The front page of HISTO Application

On the home page of HISTO application contains two main menu is a menu SINAU and DOLANAN. SINAU menu contains material of

history for elementary school children in fourth grade. SINAU, menu will contain two content are. historical relics and learning from heroes.



Figure 3. Two content on menus SINAU

Historical relics on the Menu, give a description of the existing historical buildings in Indonesia, one of which, namely the national monument (MONAS) in DKI Jakarta.

The expected output from the historical relics include:

- know the historical heritage that exists in Indonesia
- know the things that need to be done to preserve the historical heritage
- enhance the sense of love for the motherland of Indonesia



Figure 4. Historical relics in Indonesia

Click on the map in an area in Indonesia, the area will bring up a picture and description of the historical relics in the area. example when clicking DKI Jakarta, then the image will appear along with the national monument at the explanation.



Figure 5. Historical relics in DKI Jakarta (MONAS)

Learning from Heroes on the menu, give a description biography of Indonesian heroes, for example Ir. Soekarno.



Figure 6. Learning from heroes

The expected output from the imitation of the character include:

- know the hero in Indonesia
- know the things that need to be made to appreciate the services of the heroes
- enhance the sense of love for the motherland of Indonesia



Figure 7. Puzzle game in menu DOLANAN

DOLANAN menu contains material relating to the game history on the menu of SINAU.

The expected outputs from DOLANAN menu are:

know the biography of a hero.

know the name of the historical relics in Indonesia.

know the things that need to be done to boast of Indonesia.

According Hartika, by 2016, the form of the cultivation of the sense of values of love of our homeland should be able to appreciate our fellow human and loving the motherland by means of working together, the discussion about lessons and could apply that past events. The fighters can learn from the times first who willingly sacrificed and struggled selflessly in order for free from colonialism as well as the his passion to fight for the nation of Indonesia, then we will be more proud of the own culture and not to forget the nation's own identity.

4. Conclusion

HISTO application that have applied in elementary school students learning can introduce the history of Indonesia to build love the motherland character. In addition with the advancement of technology, the use of this application on the flash software is an innovative solution to be use by elementary school students.

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BRINGING STUDENTS OUT OF THE LABORATORY: OPTIMIZING INTEGRATED SCIENCE PROCESS SKILLS THROUGH FIELD INVESTIGATION FOR ISLAMIC ELEMENTARY (*MADRASAH IBTIDAIYAH*) PROSPECTIVE TEACHERS

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Abstract

Islamic Elementary School (*Madrasah Ibtidaiyah/MI*) in the last decade, especially in East Java, continued to be promoted its competencies through various institutions and workforce development programs. Higher education institutions, which producing MI's teacher candidates, have a very significant role in generating prospective teachers who have a good competence. One of the competencies to be developed is the prospective teachers' mastery of science materials at MI in the realm of process skills. By mastering basic and integrated science process skills, student teachers will also mastered the concept of science and scientific attitude. This study aims to optimize integrated science process skills of prospective teachers by using field investigations strategy in science course. Learning outside the laboratory is the solution used for the students to be involved directly with the problems that exist in the environment and can find realistic solutions of the problems. A classroom action research approach was applied for science practice class of STAIN Ponorogo prospective teacher's students in second semester of 2015/2016 academic year (52 students). By doing two cycles of the action, the mastery of science process skills could be optimized. Each cycle consist of planning, acting, observing, and reviewing activities. In the first cycle, students of prospective teachers got low skills mastery which based on the carried review it was occurred because of students' lack understanding of the strategies to be carried out. In the improved next cycle, the strategy of field investigation could finally improve the integrated science process skills in designing, doing, and reporting investigation. Doing field investigation strategy to complement the laboratory activities, students feel free to elaborate their ideas of investigation which have real contribution to their life environment.

Keywords: field investigation, science learning, integrated science process skills, prospective teacher students, islamic elementary school (*madrasah ibtidaiyah*)

1. Introduction

Mastering science process skill is the main domain in science learning. It will drive students to master scientific concepts and attitudes. For prospective elementary teachers, the mastery of this skill is on the integrated level, as mentioned in the curriculum.

Prospective teachers for Islamic elementary school who have good competency in science process skill is very needed for teaching learning process in Islamic elementary school (*Madrasah Ibtidaiyah/MI*). Previous research showed result that SPS mastery level of Islamic elementary school students in Ponorogo was only 54.47% (Widayanti, 2015). This empirical result showed that the schools need improvement in their science learning process. Teachers who have good competency in SPS mastery would be the

model for the students. To fulfill the need for classified teachers, prospective teacher should be trained with the skills. By mastering the skills, university students as prospective teachers would have two advantages, mastering the skill itself and experiencing pedagogical aspect in teaching the skill.

To achieve these expectations, in accordance with the vision and mission of the Department of Islamic Elementary School Teacher Trainer (*Pendidikan Guru Madrasah Ibtidaiyah-PGMI*) in STAIN Ponorogo, the material Science became one of the subjects who receive enough attention in the department curriculum. In 2015' Curriculum, subjects related with science have 12 credits of compulsory courses and 10 credits of elective courses. The subjects consist of Science-1, Science-2, Science-3, Science Practice-1,

Science Practice-2, and Materials and Learning for Islamic elementary science. While the elective courses are simple chemistry, Learning Methodology Science for Elementary Students, Environmental Education, Biology, Physics, and Basic Earth-Space.

Science Practice courses allow the students fully perform the learning with practical approach / hands on learning. Hands on learning has an important role in the mastery of science process skills by students of prospective teacher. To achieve this goal, learning strategies are applied during laboratory-based learning strategies. Obstacles faced with this strategy were: 1). the limited availability of tools and materials laboratory which cause practical implementation be less than the maximum, because they have to take turns with students or other groups; 2). Lecturer was the only supervisor and mentor for students of one class numbered which have more than 30 students, so that there is less supervision and assessment of student performance; 3). Not all students have the opportunity to work actively in the group. It is caused by several things, namely the lack of motivation of students, too large number of students of each group, and the lack of student ability to pass up lab activities; 4). The process of learning shows low ability to implement practical activities, although the result of understanding the concept of materials science students are good.

The obstacles that occurred in learning process of Science Practice course as described in above paragraph, tended in low achievement of the learning objectives. Student has not mastered the science process skills as expected. Efforts to improve the quality of learning has been carried out continuously, for example by constantly improving lab management, striving to keep tools and lab materials provided with sufficient and improving practical handbook which easily understood by students. However, this effort was not enough to make students master the SPS well, especially in integrated science process skills (integrated SPS). Integrated Science Process Skills (SPS), according Rezba includes: identifying of variables, constructing hypothesis, designing an investigation, finding and processing the data, analyzing the investigation, describing the relationship between variables, conducting experiments, and communicated results in more complicated way. According Abrucasto, integrated SPS includes: controlling variables, interpreting data, preparing hypotheses, drawing up an operational definition, conducting experiments. (Bundu, 2006)

To optimize students' mastery in integrated SPS, it is necessary for improvements in instructional process. The change will be achieved by making some improvements by: fulfilling the need for laboratory tools and materials; doing kind of investigation activities which not need fully supervision by lecturer or assistant; and making the learning strategy so that students shall be engage actively in the investigation activities.

To make those improvements, investigative activities should not only be done in the laboratory but also can be executed in the field, namely in the environment around students' home or university building. Various studies on the mastery of science process skills in addition to laboratory investigations suggest for the application of doing investigations in the field of students' environment. Field investigations recommended by many researchers as best practices in learning science, i.e: Falk in 1983, Falk and Dierking 1997, and Orien & Hofstein 1994. Falk & Dierking (1997) found that research in the field can improve long-term memory.

Science learning using field investigations for prospective teachers has been studied by Flores conducting action research field-based science learning to develop self-efficacy of the applicants (Flores, 2015). The combination of learning strategies laboratory and field investigations was often used by scientists to test various scientific hypotheses about the problems in the neighborhood. Both are used simultaneously as well as further investigation of the others. For example the study by Connolly and Fellow conducting field investigations and laboratory on the effect of salinity on dynamic decomposition of water in the Hudson River (Connolly and Fellow, 2012). By doing such investigation, student is expected to know well the problem faced by the local people and learned the best solution to overcome.

An action research was done in the classroom course which its goals are in line with the desire improvements, which is to optimize students' mastery on SPS. Actions to be taken is the application of learning strategies using laboratory and field investigations in the classroom learning process, in Science Practice course (*Praktikum IPA*). By applying these two strategies simultaneously to the same material, students are expected to have better skills because each strategy will complement the other. This action research also describes how was the implementation of these two strategies in the context of student mastery of the integrated SPS.

The stated problems of this study are:

(1). How is the students' mastery of integrated science process skills through field investigations ?; (2). How is the implementation of field investigations in the Science Practice course so that students of prospective teacher in PGMI STAIN Ponorogo mastering the integrated science process skills?

2. Method

This study aims to improve students' ability in mastering advanced/integrated science process skills. Integrated science process skills improved by the students in this research is skill of designing research, skills of doing experiment, and skills of making a written report.

By looking at these objectives, the study seek to provide an orderly framework for solving the problem in learning that have been mentioned. The researchers propose an action research design that has a clear intention to intervene into and improved understanding and practice of a person and to accept responsibility for themselves (Madya, 2007). This study will intervene on learning subjects/course 'Science Practice' department of Islamic Elementary Teacher Trainer (PGMI) STAIN Ponorogo to improve advanced science process skills of the students who take this course. The intervention will be carried out on a small scale specialized course of *PG-E* class of the academic year of 2015-2016. Number of students are 28 people, comprising 11 male students and 17 female students. Research was conducted in the second semester of the 2015/2016 academic year. Using action research, the problems in the class would be resolved immediately. Research actions will also generate real learning procedure that can be run well by teachers and learners. (Mertler and Charles, 2005)

Action research is research that integrates research and action in a series of cycles and flexible and holistic (Somekh, 2006). The study adopted the basic process of action research presented by Kemmis, et al consisting of planning, implementation, observation, and reflection. The cycles of action continues until the desired change is achieved with a note that it is impossible to achieve mastery of change because circumstances change continuously dynamically class.

This action research followed the steps proposed by Cohen and Manion, Taba and Noel, and Winter. Such steps are as follows: 1) identify and define problems; 2) analyze the problem; 3) formulate action hypotheses; 4) make a plan of action and monitoring; 5) carry out the action and

watched; 6) process and interpret data; and 7) reports. (Madya, 2007).

The research subjects were the students of *PGMI* (Department of Islamic Elementary Teacher Trainer) STAIN Ponorogo in second semester of academic year 2015/2016 class *PG-E*, who are taking the course Science Practice-1. The number of students were 28 people, comprising 11 male students and 17 female students .

Data were collected through participant observation, audio-visual recordings, interviews, and photos. Data was collected at the time the act done. Data collected included all performed by lecturer and students as the parties involved in the situation created, the effect of laboratory and field activity-based learning to study participants, changes need to be made on what was applied to the action, interaction patterns between students, students-lecturer, and students-environment, and data on the process.

Having regard to the necessary data, then the data source is the students who are engaged in research, faculty as a lecturer and researcher, and colleagues as collaborators to help see the implementation of measures in a comprehensive manner.

The data collection was done by observation, interview, documentation, and discussion. Observation was used to obtain data on the students' ability to perform experiments. Researchers conducted observations during the research process with the assistance of research collaborators. Interviews were conducted to obtain data on the implementation of learning approaches laboratory and field investigations. A technical documentation was also used, namely by documenting student worksheets about the study design and research reports. While discussions with colleagues and other collaborators carried out to obtain reflection result of the action in the cycle.

Tool or instrument used to collect data in the form: observation sheet, interview, assessment rubric worksheets and reports, as well as a discussion guide sheet. The research instrument indicators divided into the mastery of integrated science process skills and the implementation laboratory and field investigations. The integrated science processes skills to be investigated in this study consist of: skill of designing investigation, skill of carrying out/doing the investigation, and skills of making the investigation report.

Indicators for designing investigation skill include: determining the tools and materials used, determining variables, determining what is observed, measuring, determining the pace of

activity, determining how the data was processed and concluded. Indicators for carrying out/doing investigation skills include: job skills in laboratory and field, seriousness in work, completion of assignments, attitude and effort, use of time, cooperation. Indicators of reporting investigation include: the suitability of the contents of the report with the provisions, the clearness of used language and systematic use of appropriate graph-table-images, communicate the conclusions based on reality.

3. Results

Pre Condition

Before the action, of integrating field investigation on Science Practice course, students were doing laboratory-based activities with the guidance of practical guidebook. Students had to follow all the steps, included design, practical activities, and activity reports.

The profile of students' integrated science process skills in designing, doing, and reporting of the investigation before the action is figured out in fig. 1. It showed quite good score. The students seemed to be mastered on the skills as well. In this time, students of prospective elementary teacher did the investigation with good guidance which systematically directed the students understanding the design, doing science investigation, and reporting investigation result. It means that the students didn't do the investigation themselves with their own creativity and idea.

This research intended to optimize students' mastery in integrated SPS which obliges students to do the autonomy investigation in advanced way. Doing investigation out of the laboratory, without any direct guidance, motivated the students to do all their effort investigating and solving problems.

Table 1. Percentage of Prospective Teacher Students based on SPS Score before the Action

SPS Score	Designing	Doing	Reporting
>85	53.57%	39.29%	7.14%
60-85	32.14%	21.43%	92.86%
< 60	14.29%	39.29%	0.00%

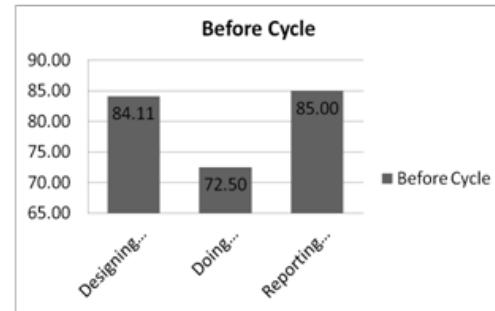


Figure 1. Profile of Prospective Teacher Students' Science Process Skill (SPS) before the Action

First Cycle

The research started the first cycle with planning an action, engaged these activities: developed and discussed lesson plans with other lecturer; prepared research equipment (camera unit, observation sheets, sheets interview guides, stationery, investigation manuals, tools and materials, and attendance list. Researcher and collaborators also set up all equipment and materials on the groups table; prepared reference books; checked availability of the Internet connection. Everything is prepared prior to the time the lab, so it would not waste time.

The next step was doing the action. Here are the activities.

- First meeting of the cycle did in the laboratory room: opened with saying prayer, presence, and giving learning motivation. Given motivation includes frequently asked questions about the lab results back, review the lab report, as well as materials for lab check today. The need to be prepared was stationery, striped folio paper, reference books (at least one group of two books related reference material), and prepared the internet connection.
- At the first meeting of the 1st cycle, students in groups of 5/6 people designed plant vegetative reproduction.
- Students then discussed the design of t artificial plant reproduction used reference books and online recourses.
- Students decided the best design they found and can be practiced as well.
- Then students had to write the investigation design in foolscap striped: consist of: the investigation objectives, time and place, tools and materials, theoretical background, investigation questions, and hypothesis.
- Each group choosed two activities on vegetative reproduction design . No group chose the exact same activities. After writing the design, representative of the group

presented the draft design and consulted with lecturer and friends from other groups. Student had to revised the design in accordance with the advice in discussion forum.

- The next meeting of the same cycle executed in the field, in the students' house environment. Students doing practical work in accordance with the draft which has been compiled. They conducted observations and writing in the observation sheet. They also made practical reports of each students own.
- 2 weeks after the field investigation, students brought plant breeding results to the classroom/laboratory room. For plants that do not allow to carry, can be represented by a clear photo or video. Group representative presented its investigation as well as the results of observations that have been made. The group observed that results using different ways could be had the different outcomes. It happened for the same type of the plant which being reproduced using enzyme or without enzyme growth. Summing practicum and the results in class discussions. Then, lecturer provides reinforcement and review reports.

The activities observed are: students' activities in designing investigation. It began with finding the sources of reference, determining the appropriate design, discussing with friends, consulting with lecturer; making investigation observation sheet; and reporting the results of investigation design.

Indicators for the design activities are: determining the tools and materials used, determine which variables, determine what is observed, measured, determine the pace of activity, determines how data is processed and summarized. While indicator to be observed for 'skills of carrying out experiments' include: job skills laboratory / field, seriousness in work, completion of assignments, attitude and effort, time management, cooperation. Indicators of 'skills of reporting investigation result were: the suitability of the contents of the report with the provisions, the clearness of language used and systematic use of graph-table-picture, accordance of the conclusions and results.

Reflection activity done by discussing what have been observed with collaborator. The reflections were: Students looked confused with new strategies; students only have practical guidebook, not in detail steps of investigation. They had to fill their own investigation purpose, tools, materials, steps, activities, observation sheets, and sentence conclusion. It concluded

that the confusion happened because of students' lack of good understand in new strategy.

So, for the solution, lecturer should explains slowly and systematically about what students have to do, step by step. Lecturer should provide a longer opportunity for students to digest and understand each step. 100 minutes is not enough time to complete the action at the first meeting, the 15 minutes time delay effected on inefficiency, on the other hand students should arrive on time, then the class to begin. Students tended to duplicate friends' design from another group that is so, because of the similarity of the topic. For the next cycle, different topics should be delivered among a distinguished group.

Another problem as the reflection was that student has just rely on internet search to find investigation design ideas and not using other reference sources. As the result, the design was not varied and less accountable. On the other hand, students had limited time to read the resources. The solution was that they should be asked to read the sources/references before entering the laboratory room (reading at home).

2nd Cycle

The 2nd cycle began with the planning activity. Researcher as a lecturer developed and discussed lesson plans together with other lecturer of the same subject. The discussion of lesson planned made more attention on the students' preparation activities. Other activities includes; preparing research equipment (cameras, observation sheets, sheets interview guides, stationery, laboratory manuals, tools and materials, and attendance list; setting up equipment and materials on the table practicum groups; Preparing reference books; checking availability of the internet connection. Everything was prepared prior to the class time, so it's not time consuming.

The action was the implementation of laboratory and field-based investigation on 'environmental pollution'. The steps included: prior to this meeting, the lecturer had asked the students to read and examine practical guidance for environment pollution and given attention to the task of their own group respectively. A large group, in prior cycle changed to a small one which consists of 3/2 people. Lecturer gave guidance in discussion and shares them with the group leader. Since the students had read good books or the internet reference at home, then in class, students continued to discuss the design of investigation in efficient time.

Students present the design of the investigation in front of the class, and seek input

from other friends and lecturer. After that, they revised the design of appropriate practical input obtained. Students were collecting the results of the design to be checked by the lecturer. Taking back the next day and then in practice.

The next session of the action was done by student in the 'field' outside the laboratory, for example in students home surroundings. Students was doing practical work in accordance with the draft which has been compiled and conduct observations and writing in the observation sheet. Later, they made practical reports as individual work.

The next 2 week from field investigation started, students had to attend classroom meeting in laboratory. Student has brought the results of investigation of contamination to the class, for example plant experimental results. Group's representation presented the investigation result as well as the results of observations that have been made.

The activities observed were: students' activity in designing investigation which began with finding the source of reference, determining the appropriate design, discussing with friends, consulting with lecturer; credible form of practical implementation; and reporting the results of investigation activities.

For the reflection, there were resulting in these statements: Students were able to work systematically; Students could create a better design for investigation, because they already had various ideas. Friend of other group also gave feedback in varied. Time management of designing time was more orderly and efficient. Students arrived on time and did not waste time. Students also didn't copy another student's idea of the investigation design, because each group received a different topic. There are only two small groups that have the same topic, The design idea can be controlled to find the best ideas. Lecturers can better control the design of the two groups only. From the observation of the skill activities, reflecting the increase in average scores compared to the results of the first cycle. Thus, the cycle can be stopped because it had been achieved the desired objectives.

4. Discussion

Implemented two cycles, this action research has reached its objective in optimizing students' integrated science process skill (SPS). The score's changes of each skills showed in Table 2.

Based on the goal of the study, it divided into three sub goals, i.e.: to describe students' skill in designing, doing, reporting investigation

by implementing field investigation for complementing laboratory investigation . For the first goal of the study, it showed that students' skill in designing was improved finally at the end of the 2nd cycle. Although the students got worse average score compare to pre cycle condition, it didn't mean that students lost their experience of science skills. Indicator of designing skill are determining the tools and materials used, determine which variables, determine what is observed, measured, determine the pace of activity, determines how data is processed and summarized. For pre cycle activity, students doing activity based on the guidance book of laboratory activity, which contain laboratory work design, work step, and form of work report. So students had patent guidance to be followed. While being move to the 'new' strategy, which stressed on mastering integrated skill (students are being more autonomous), students have to find the best investigation design by their selves fitting to the condition and problem they faced. This condition is very new to them, so they need more experiences. After doing 2nd opportunity, finally they coped the confusion and mastered the skill.

Table 2. Changes of Skill's Mastery Score in Cycles

SPS Skills	Pre Cycle	1st cycle	2nd cycle
Designing	84.11	67.86	87.32
Doing	72.50	77.86	87.14
Reporting	85.00	84.82	86.61

For designing investigation skill, students had significant improvement, for average score of 67.86 in 1st cycle become 87.32 in 2nd cycle. For the skill of doing investigation, there were almost 10 point upgraded in 2nd cycle (77.86 → 87.14). There were no significant lifted score for students' reporting skill. Not like the first two skills, students' reporting skill of the cycles (cycle 1 and cycle 2) seems to be similar to them in pre cycle. Reporting activity using report format have the same content for all learning strategy, laboratory or field investigation. So there were no differences, event students doing different learning strategy for their investigation activities.

Fig. 2, showed percentage of SPS score compared to each cycle. Students' level score were in good progress. Figure 2 (a) showed that percentage of 'designing skill' score in 2nd cycle had significant fluctuation from 1st cycle. It also

happened in 'doing skill' (b). For all the three skills of integrated SPS, finally in 2nd cycle, students got high level score (>85).

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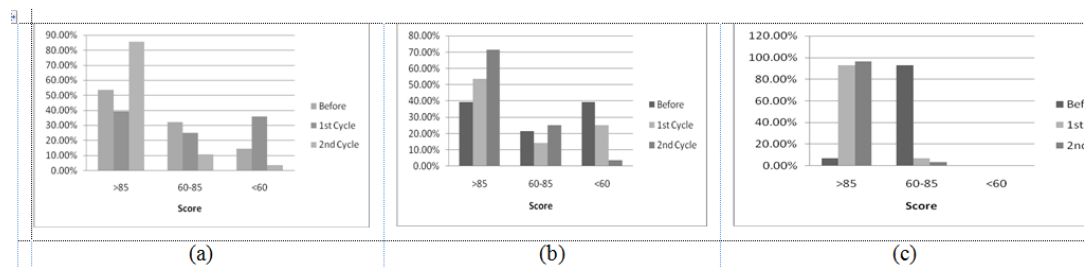


Figure 2. Profile of Prospective Teacher Students' Science Process Skill (SPS) before the Action

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EXCLUSIVE POLICY TOWARDS NATIVES PROSPERITY*

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*on going research

Abstract

This paper shares the experience of research to be conducted on exclusive policies in Jayawijaya district, Papua, Indonesia. The form of exclusive policy is the development of Potikelek traditional market. The market is a market devoted to Papua people (OAP). The purpose of the market development is to improve the quality of life of the Papua people (OAP) who have not been able to compete with migrants with large capital. The dominance of non-Papuan entrepreneurs, most of whom dominate the economy in Papua and the social gap between migrants and indigenous Papuans, triggered conflict. The conflict was largely influenced by economic and political problems. The horizontal conflict also occurred, ie between migrants from outside Papua with Papua people (OAP). Horizontal conflicts include cross-ethnic violence, religion, and political entities in Papua that occurred sporadically. The results of the pre-survey of this study found that Potikelek traditional market has been implemented for approximately two years but has not been effective to improve the prosperity and quality of life of Papua people (OAP). After the development of Potikelek traditional market in Jayawijaya regency, there was a conflict that was rejected by traditional traders who refused to be relocated to Potikelek traditional market due to the lack of visitors and the decrease of traders' turnover. The purpose of this research was to analyze the implementation process of development policy of Potikelek traditional market. This research will use a qualitative approach. The data were collected by observation, documentation and in-depth interview method, and analysis conducted by the descriptive-analytical process.

Keywords: excusive policy, traditional market Potikelek, increase Natives prosperity, Papua.

1. Introduction

In general, the society recognizes two types of markets; traditional markets and modern markets. Kotler (2006) stated that traditional markets are a place where sellers and buyers meet and are characterized by direct transactions, kiosks or outlets, stalls, and open bases opened by both the seller and the market manager. Both have different characteristics viewed from buildings, selling places, and selling & purchasing system. Traditional markets generally consist of tents, impermanent places, and uncomfortable environment like being muddy, dirty, smelly, & unsafe. On the other hand, the modern markets usually have magnificent buildings, permanent places, adequate facilities, being comfortable, safe, & certain price.

The growth of the modern market is very rapid (Collett & Wallace, 2006). The development of the times and the change of lifestyle are promoted greatly by various media, and the establishment of the modern market has

made a major impact on traditional markets, so the existence of traditional markets is slightly disturbed because of a large number of consumers who prefers shopping in the modern market. The deregulation of the real business sector that aims to increase Foreign Direct Investment as having an impact on the development of supermarket chains (Reardon & Hopkins, 2006). According to Reardon et al. (2003) and Shepherd (2005), in many countries, it is believed that supermarkets and the same kinds have dominated 50% more food retail. Traill (2006) predicted that by 2015, supermarket will reach 61% in Argentina, Mexico, Poland, 67% in Hungary and 76% in Brazil. The rapid development of modern markets is felt by many parties that impact on the decline in the number of sales of traders so that they will potentially fold.

The rapid development of modern markets also occurs in Indonesia and its existence can undermine the existence of the traditional markets. According to a survey conducted by AC. Nielsen, number of traditional markets in

Indonesia reached 1.7 million or about 73% of the overall markets. However, the growth rate of the modern markets is much higher than the traditional markets (Masitoh, 2013). Another study conducted by Nielsen (2005) found that since the emergence of the modern markets in 2001, the contribution of modern markets started from 24.8% and increased to 34.4% in June 2006 and vice versa, the traditional markets decreased from 75, 2% in 2001 to 65.6% in June 2006.

Papua is one of the provinces located in East Indonesia that currently gets special attention from the Central Government. One of the attention from the Government to the Papua people with the implementation of the revitalization of the 15 public markets funded from *Medebewind funds* or *Tugas Pembantuan* (TP) in Papua and West Papua. These 15 markets are part of 47 markets funded by the central government in 2015 (www.presidentri.go.id). These public markets are known by the markets of *mama-mama Papua*. The markets of *mama-mama Papua* are markets that have long been expected by Papua people, especially traders who are Papua People (OAP). The desire to have their own market is motivated by the increasingly visible competition between Papua people (OAP) and non-Papua people which in the term of economic competition, non-Papuan are faster developed and developing than Papua people (OAP). It can be seen from the dominance of non-Papuan entrepreneurs who continue to take roots, almost all business sectors are controlled by non-Papuan businessmen (www.papualives.com).

Similar conditions also occur in Jayawijaya District where in the term of economic competition, the migrants are faster developed and developing than Papua people (OAP). This can be seen by the number of buildings in Jayawijaya Regency which is used as a place of business either in the form of foodstuff seller shop, the seller of kitchen spice, stationery, food stalls, the seller of building materials and other basic needs, which are managed by immigrants or non-Papua people. Papua people (OAP) sell more on the shopfronts as well as on the sidewalks of street vendors, which they do not have a decent and comfortable place to sell.

Papua is one of the Provinces in Indonesia which has a special autonomy policy. As stated in Law no. 21 of 2001 on Special Autonomy for Papua Province which states that special autonomy for Papua Province is basically a grant of broader authority for the Province and Papua people to organize and manage themselves within the framework of the Unitary State of the Republic of Indonesia.

With the presence of special autonomy, then Government of Papua Province more freely to govern and exploit all the potential that exist in its territory. It is also one of the triggers of the emergence of a range of policies that are exclusive or special. One of them is the policy issued by the Government on the development of the Jayawijaya Regency Potikelek traditional market. Potikelek traditional market is one manifestation of a concept of exclusivity policy, whereby the market specializes for Papua people (OAP). As the exclusive sense literally according to the great dictionary of the Indonesian language, that is separated from the other or special. While the exclusivity that is specialized or separated more appropriate from the others. It is also the same as what Supian (2009) said that exclusivity means limiting ourselves so that the different parties do not enter into in scope. As the case in the traditional market, Non-Potikelek traders of Papua are not allowed to sell the market because that market is indeed earmarked specifically for the Papua people (OAP).

The market is a manifestation of the concern of local governments in the framework of accelerating development, improving economic prosperity and progressing for Papuans, especially Papua people (OAP). Bupati Jayawijaya said that the existence of this traditional market is a model market for districts/cities throughout Papua (www.jayawijaya.org). The policy is contained in the instructions of the Regent of Jayawijaya No. 01 of 2014 on the utilization of traditional markets Potikelek and traders regulation who sell on the roadside.

Potikelek traditional market has been implemented for about two years. However, from the results of pre-survey, it was found that there were still many traders found Papua people (OAP) who returned to sell in the original place. They returned again peddling merchandise on the sidewalk as a street vendor. Even those traders no longer heed the warnings given by the local government. Most of them complained that since the relocation of Potikelek traditional market, their income has decreased due to the lack of visitors. Problems that occur in the market Potikelek cause traders native Papua (OAP) prefer to return to sell in the original place as on the roadside and areas that are easy to reach by the buyer. As a result, the available market locations are empty. Until now, the activity of indigenous traders of Papua (OAP) on the side of the road still continues even though it has provided a decent building to sell. Some of them prefer to re-sell at the original place under the pretext that it is more profitable to sell back to the

roadside than in traditional markets Potikelek. In addition, the problem of the designation of Potikelek traditional markets also began to be questioned. Because at this time non-Papua traders are also allowed to sell in the market. This is certainly contrary to the content of the policy contained in the instructions of Regent Jayawijaya No. 01 of 2014 on the utilization of traditional markets Potikelek and traders regulation who sell on the street, which in the regent's instructions are affirmed that the Potikelek traditional market is a special market business for Papua people (OAP). In addition, the construction of Potikelek traditional market is to create the order of business actors in the city of Wamena, to prevent chaos and traffic accidents, and to maintain the cleanliness of the city of Wamena. However, the fact of the field shows that the traders of Papua people (OAP) prefer to return again selling on the sidewalks as street vendors.

The situation showed a discrepancy in the policy. It is clear from the content of his policy that shows the existence of the exclusivity that aims to improve the prosperity of Papua people (OAP), but this exclusive policy does not run as expected where the merchants of Papua people

(OAP) complained about since they traded in the traditional market Potikelek, their income is declined because of the lack of visitors and ultimately the merchant any incoming non-Papua and selling in the market. Then the research will focus on the process of implementation of the policy on Potikelek traditional markets in Jayawijaya Regency.

Grindle (1980) introduced the implementation model as a political and administrative process. The model describes the decision-making process undertaken by multiple actors, in which the final outcome is determined by both the program material already achieved and through the interaction of decision-makers within the administrative political context. The political process can be seen through a decision-making process involving various policy actors, while the administrative process is seen through a general process of administrative action that can be investigated at the level of a particular program. Successful implementation by Grindle is influenced by two major variables, namely the content of policy (content of policy) and the implementation environment (context of implementation).

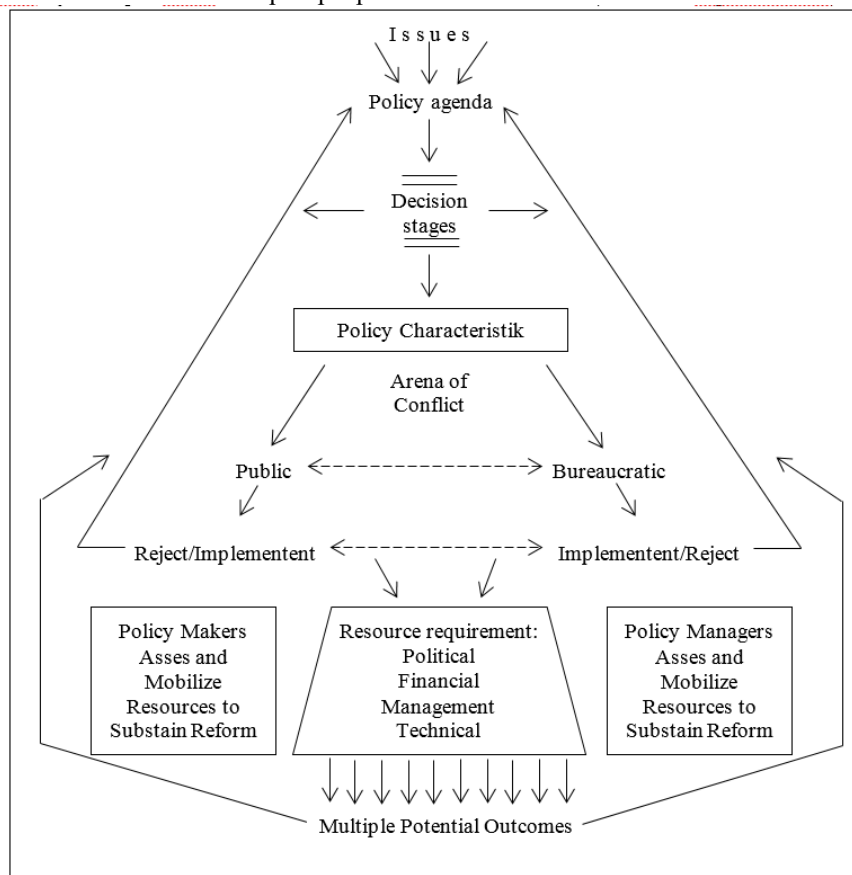


Figure 1: Implementation Process Model (Grindle, 1980)

According to Grindle, the policy content variable includes: (1) The extent to which the interests of the target group are contained in the content of the policy; (2) Types of Benefits received by the target group; (3) To what extent is the desired change of a policy; (4) Whether the location of a program is correct; (5) Whether a program has specified the implementor in detail; (6) Has the resources been adequate. While the implementation environment variables include: (1) How much power, interests, and strategies are shared by actors involved in policy implementation; (2) Characteristics of the institutions and regimes in power; (3) The level of compliance and responsiveness of the target group. Based on the theory of Grindle, this research aims to analyze the implementation process of the traditional market policy of Potikelek in Jayawijaya Regency.

2. Method

This research uses descriptive qualitative approach, which describes the implementation process of development policies Potikelek traditional market. The location of the research is conducted in the Jayawijaya Regency, Papua Province, Indonesia. The data source in this research is the primary and secondary data sources. Primary data can be obtained through interviews and observations. Informants in this study set by purposive sampling, i.e. people who are seen to know and get involved in the process of the market development policy of Potikelek. On the other hand, secondary data source can be obtained through market development policy related to documents of Potikelek. To ensure the validity of data, this research uses a triangulation source. Triangulation of sources can be done by obtaining data from different sources with the same technique. For the data analysis done with the interactive analysis, data reduction by reducing the data was deemed not relevant to the issue, namely the presentation of data display data in the table, the supporting image, and conclusion as a result of the research objectives.

3. Discussion

The existence of traditional markets is one of the most obvious indicators of the economic activities of people in a region. Based on data from the Business Competition Supervisory Commission (KPPU) in 2010, the number of traditional markets in Indonesia reached 13,450 markets with the number of traders around 12.6 million people (kppu.go.id). The data shows a large enough amount so it is not excessive when there is a statement that the traditional market is

one of the pillars of the economy in Indonesia. Although at present, the existence of traditional markets is under pressure from the growth of modern markets, but we can not deny that the existence of traditional markets has existed since tens or hundreds of years ago. In addition, many people still need the traditional market in looking for income and also the need in buying and selling transactions. Pfeffermann (2000) mentioned that the informal sector, including traders in traditional markets, accounts for 58% of job opportunities and is able to free a person from the shackles of poverty. The absorption of labor that can reduce unemployment is another advantage gained from the existence of traditional markets. Thus, the position of traditional markets is still important and integral in the life of the community because the traditional market is one of the economic heart of a society that is able to provide a life for the economy, especially the lower class society.

Traditional markets have functions and roles that are not only for the place of trade but also as a cultural heritage that has existed since the first (Vedas and Rahadi, 2012). Traditional market has always been considered as a place to meet all the needs of the community, because the traditional market is the pulse of the economy of the small community that is still the majority in this country, and the existence of the livelihood of the people, so that traditional markets have a very important and strategic role In national development. As said by the Minister of Cooperatives and SMEs (Small and Medium Enterprises) Anak Agung Gede Ngurah Puspayoga, that the traditional market is one of the backbones of the national economy (kompas.com).

Based on Government Regulation No. 66/2001 on regional charges states that traditional markets can contribute to state revenues derived from taxes and user charges. Thus, a traditional market is one of the sources of Original Regional Income (PAD). Regional Original Revenue (PAD) is the right of Local Government that can be recognized as an increase in net worth value in a period of the government concerned. Defitri (2011) said that Pendapatan Asli Daerah (PAD) through intensification and extensification of sources of PAD, one of which comes from the retribution of market services. The market plays an important role and is related to the Pendapatan Asli Daerah (PAD) because it will support the economic development of a region, so as to maintain the existence of traditional markets, there are various policies that regulate the market management,

including the revitalization and relocation of traditional markets.

Studies on traditional market relocation and revitalization policies occur in many parts of Indonesia. One of them at Piyungan traditional market in Bantul Regency, Masitoh (2013) in his research found that Bantul regency government has proven its support to society through traditional market revitalization policy. Revitalization is done not only on the physical building but also the management of traditional markets in more modern ways. But the constraint of revitalization in Piyungan Traditional market is that traders post-market relocation complains about the lack of visitors and decreased turnover. Another Study conducted by Hadiaro (2016) found that the implementation of the Caruban traditional market relocation program in Madiun District has not been effective. All traders have been moved to a new market but the buying and selling activities are not in accordance with the desired expectations. Issues related to accessibility to poor new market locations have become a constraining factor in program implementation. From both studies, it can be seen that the policy of revitalization and market relocation from the government has not been able to solve all the problems and still leaves the problem to the traders in the traditional market. The traditional market policy of Potikelek in Jayawijaya Regency is also a policy of market relocation and revitalization. The difference is that the Potikelek traditional market is a market devoted to Papua people (OAP). However, from the pre-survey results indicated that the traditional market policy of Potikelek is not able to overcome problems and gaps of traders in the market, especially Papua people (OAP) traders.

The horizontal conflict also occurs, ie between migrants from outside Papua with Papua people (OAP). Horizontal conflicts include cross-ethnic violence, religion, and political entities in Papua that occur sporadically. Likewise, the conflict and violence in the district or provincial capital centers in Papua are full of political competition, both Papua people and migrants. Where both parties share the necessary powers to seize political and economic power. Politically, Papua people is supported by a special autonomy law which gives priority to Papua people (sons and daughters of indigenous regions) to become political leaders, but migrant settlers in Papua are economically more established and seem more ready to fight than natives Papua. That is why until now immigrants have always been representatives in political office and also hold the role of economy and business in Papua (Ajo, 2016).

Based on the instructions of Regent Number 01 Year 2014 on the utilization of Potikelek traditional market and curbing traders selling on the sidewalk, affirmed that the traditional market Potikelek is a special market of Papua people (OAP) business people that aim to create order of business actors in the city of Wamena, to prevent chaos and accidents Traffic, and keep the city cleanliness Wamena. The policy is one form of policy that is an affirmative action that is by giving privileges to certain groups. The groups that get special treatment and special here are the Papua people. As Sayuti (2013) suggests that Affirmative action is the preferred way by the state in response to discriminatory social conditions, inequality and marginalization in all spheres of life due to patriarchal strata at the public and private levels, which is a positive done to accelerate the achievement of justice and equality.

The empirical results of several findings from a study by Sumardi (2012) related to specific policies in the district of North Aceh that found that the special autonomy policy program in North Aceh district in eradicating poverty and prospering the community is not optimal and the poverty rate is increasing. The main obstacles are the inadequate human resource issues, including the leadership problems of regional heads who should prioritize development in the prosperity, education and health sectors. In line with the study conducted by Kubangun (2014) regarding the enactment of affirmative action policy in Manokwari which found that the affirmation and representation policy in bureaucracy contained in the special autonomy law in favor of the indigenous Papua people can be said to be successful. However, the problem is that these placements are not native Papuans in general, but placements that lead to tribalism. The impact that arose in the form of the birth of the New Autonomous Regions (DOB) tribal-oriented, the emergence of various demands of society that led to the action to be obstructed public budget and public services, to corruption cases.

Another study conducted by Fretes (2015) which reveals that the policy of special autonomy in Papua led to various attitudes of local elites in Papua. The results confirm that local Papuan elites who are part of the bureaucracy in local government tend to support special autonomy as a way to utilize the policy for the sake of its allocation of interests. The rejection of special autonomy comes from local elites who are outside government structures, for this particular group of special autonomy is deemed to fail and only benefit the elite or certain groups. Local elites are apathetic assessing special autonomy is

the latest offer of solutions from the central government. For this group the central government will not provide anything more than special autonomy, resulting in ignorance of the implementation as well as the impact of special autonomy.

From the results of research by Sumardi (2012), Kubangun (2014), and Fretes (2015) related to policy exclusivity and affirmative action policy, all three of them have an unexpected impact on the specified party. Theoretically and empirically this condition is interesting to be studied deeper. The existence of an exclusive policy in Jayawijaya regency related to Potikelek traditional market as stated in the Regent's Instruction No. 01 of 2014 shows that almost similar symptoms to those were found by Sumardi (2012), Kubangun (2014), and Fretes (2015). So this research is more interesting to be studied.

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THE DEVELOPMENT OF THE TEXTBOOK WRITING OF THE CHILDREN'S STORY BASED CHARACTER EDUCATION IN THE ELEMENTARY SCHOOL

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Abstract

This research is aimed to develop the textbook writing of children's stories based characters education for elementary school students in Surakarta. The approach of the study uses Research & Development (R&D) that is adopting from the model of development of version Borg and Gall. The subjects are the teachers and elementary school students in Surakarta. The data collection techniques used in this study are questionnaires, observation, interviews and documentation study, which is supported by the Focus Group Discussion (FGD) and field note/ logbook. The data are analyzed using descriptive quantitative and qualitative. The results of the study showed that (1) based on the results of the preliminary studies, it is known that the primary school in Surakarta has not the textbook writing of children's story based character education, especially in Grade IV, (2) the FGD results indicate that the internalization of the character values into Indonesian subjects is significant to do; and (3) the product of a textbook writing of children's stories based characters education for elementary school students in Surakarta has validated by some experts.

Keywords: textbooks, writing, character education.

1. Introduction

The activity of writing or composing is a problematic linked to the lives of the children, especially related to the writing skills of students that occur at elementary school of Surakarta. This happens because most people, including teachers and students are less interested in and make sense of the importance of writing including writing a story. The learning activities in Indonesian subject (write stories) are not simply and common learning as a provider of competence alone, but it is widely learning the Indonesian language as a benchmarked of an attitude of love for the homeland, Indonesia that is proudly as a nation of Indonesia. It is through writing of students who are able to organize ideas or concepts into a delusion of imagination that are inspiring the next writing in a structured and sustainable. So that, it can be communicated to others through the medium of writing or a series of stories in an essay as a process of knowledge transfer as well as the meaning of identity of a nation of Indonesia realized effectively (Higher Education, 2013: i).

The textbook is one reference to learn or one of the materials. The usefulness of textbooks to help teachers facilitate the delivery of the

range of material to students in the process of learning, so that students become easier in the process of achieving competence and is able to interpret the learning activities as well as corresponding national values (Sadhono, 2014: 99-106).

The textbook that contains the material that will be delivered later in the process of learning activities, and will be absorbed by the students, is a necessity or requirement that is essential in the world of education, then the existence of an appropriate book in supporting the educators proficient and skilled competent in their field undoubtedly the success of a series of learning activities will be realized.

In the journal, Novianto (2015: 34-47) states that things that need to be considered in the preparation of textbooks was taken from the closest to the students in a way introduced to the imagination about something then taught how to write based on what is perceived with what is seen and with what words to be expressed so that a particular meaning and the other people can understand it.

The conditions of the textbooks that exist in the field have not showed the availability of properly yet, this can be proved by some facts in the field documentation. The teacher in teaching

and learning activities just used textbooks that have been published a long time ago. In addition, the delivery technique performed monotonically so that the students become enthusiastic, less exploratory, less imaginative in growing ideas, resulting in a low level in terms of thinking into explained ideas through writing, besides writing activities often nature ruled out that as a mere formality in learning activities Indonesian (Mariatna, 2015: 21-37).

The writing skills of children's stories are all ways or steps appropriate in the process of writing a story, according to the ability to think of someone's imagination in expressing his idea into an article that sort of coherent or said to be systematic in accordance groove thinking, based on the reality in the field the ability to write stories on the students very low that their writing skills in a very minimal, even students are now reluctant to write or record in this case because the learning stimulus offered less attractive teachers so that students become confused and reluctant concerned will write about something of interest. (Winarni and Slamet, 2014: 39).

Writing skills required for essentially writing skills is not just the ability to write graphic symbols to form words, and words are arranged into sentences according to certain rules, but the writing skill is the ability to pour ideas into written language through sentences that are arranged in intact, complete and clear so that, the ideas can be communicated to the reader successfully. The writing skills require the ability to use patterns in written language to express an idea. This writing skill sufficiently covers a range of capabilities, such as the ability to use language elements precisely, the ability to organize discourse in essay form, the ability to use appropriate language style, word choice, and the other (Winarni and Slamet, 2014: 39).

The conditions virtuous character is quite alarming current students with the development of modern globalization and less balances development of mental attitude characteristic value in identity as creatures of God, then we often encounter forms of student misbehavior that deviate from the value of virtuous character. So that the necessity of cultivation characters in all aspects of learning activities uses textbook writing of children's story based character education. The character itself is a noble value that become the pillars of the joint life which attitude moral ethics and Matching with an aesthetic to realize a person virtuous filled with the spirit of nationalism true that makes the creation of atmosphere conditions expected (Kesuma, 2011: 12).

The problem in this research is focused on how the textbook writing of children's story based character education at the elementary school can be used in the process of learning activities, so that the results of this study will contribute to the development of book learning resources at the elementary school primarily: (1) instill skills writing in students from children to become skilled at writing stories, (2) cultivating an attitude of soul character in the personality of students, (3) be the latest breakthrough as an effort to improve and support the process of learning activities attractive to students relation to writing stories in learning Indonesian.

This study aims to develop the child's textbook writing stories based character education in elementary school Surakarta. The focus of this research is to conduct a preliminary study of the needs of books in the field, as well as the availability of books in the field and its implementation in the field. This preliminary study was carried out by observing the analysis of the implementation process of learning that is held at the primary school. It also conducted an analysis Implementation use books to internalize the character values in it so it will bring into the personality of students.

The innovation in this research is to produce a textbook writing children's story is more than just writing the steps but is equipped with animated images and integrated with the planting of character values. Thus Hopes through textbook writing children's story based character education teachers can to exploration and attractive in presenting the process of further learning students may find the idea of the idea that imaginative that can be contained in the text as well as grow the value of a character in it, so that through the delivery of the right to prove that the child can imagination earnestly stimulus if there is good interaction between students and teachers as well as the environment that could be shaped like books, instructional media and atmosphere as well as good conduciveness. (Heintz and Svensso, 2015: Pg.15-28).

The Products of this development study is the textbook writing of children's story based character education for students in fourth grade elementary school in Surakarta. Textbook writing children's stories based character education is a product of research that produces textbooks containing internalization of character values that are aligned with the current process of changing times. Facilities and infrastructure needs including learning resources is an important part in learning activities, and by the requirements of learning resources through the textbook writing children's story based character

education is the latest breakthrough to address the need for textbooks in elementary education unit Surakarta City.

The textbook writing children's stories based character education in the process of learning activities can help teachers deliver the ability or skill to write good stories, so that from this textbook will be obtained a handbook of a new orientation in giving lessons to students on how to write a children's story based character building. For students of course easier to find the idea of a creative idea imagination. The idea of imagination as well as capable poured in a work or student writing an interesting story.

The use of textbook writing children's story based character education that is used in the process of learning is very easy and interesting especially combined with the situation of the learning conditions and the delivery of the right will arise meaningfulness of the results of learning activities, so as to materialize the outcome learn that featured and able to achieve the expected competencies.

2. Methods

This study uses the approach of Research and Development (R & D), which adopted a development model version of the Borg and Gall (2003, pg. 237-256). Simplified by Sukmadinata (2012: 189) describes the tenth stage of the Borg and Gall can be simplified into three stages, namely; (1) the exploration phase or preliminary studies; (2) the stage of the model development; (3) stages of testing models and product dissemination.

The collecting data in this preliminary study conducted using questionnaires and observation reinforced by interviews and document analysis study field. The results of this field survey serve as the foundation in the development of textbooks to the specifications expected. From the data of empirical cover in several aspects: (a) document / devices supporting the teaching of writing stories, (b) the field findings about the condition of textbooks available, (c) the availability of textbooks appropriate, (d) the process of teaching and learning (learning teaching), and (e) the implementation of the current character planting activities in the classroom.

The targets in this study were teachers and students, as subjects in the field of course this research involves various elementary schools in Surakarta conducted with determination by cluster random sampling technique. begins with a preliminary study on the condition of the book

which has been used to teach writing stories on the students, and the analysis of the needs of textbook writing children's story based character education field is the process of applied learning in elementary School Surakarta and implementation of character education level at Primary School Surakarta.

The fact-finding process in the field is done with data collection are: 1) interview, 2) observation, 3) questionnaire, 4) analysis of the document. The next in-depth data analysis with peer-debriefing techniques is to test the credibility of the findings from the previous study. In the process of the feasibility needed role of experts media textbooks and expert literature Indonesian language experts in the process of assessing the feasibility of textbooks that can later be used in primary school. For the next process is test validity and reliability for test instruments used in this study, next to assess the effectiveness of the book is done by testing stages including homogeneity test, test for normality until the ANOVA one way, so we get the results of the fact finding field testing the control class and classroom experiments to measure students' skills in writing children's stories based character education.

The Procedure of development research is to design textbook writing children's story based character education to the fourth grade elementary school in Surakarta, which will be used in the learning process, the base of the steps of this development begins with a needs analysis in the field and problems in the field as well as the necessary solutions and suggestions of experts subsequently drafted the prototype further implemented in the process of learning activities, after the first implementation done next stage is the evaluation and revision of the product that the process of analysis conducted by researchers at how to prepare for the implementation of the Focus Group Discussion (FGD), which aims to open up horizons of thinking and understanding of teachers to the importance of story writing skills in students and the process of how to internalize the character values in the process of learning to write stories, especially in fourth grade elementary school in Surakarta. FGD become a reference for researchers in designing product enhancements textbook writing children's story based character education, to comprehensive subsequent trials conducted on the activities of the learning process.

To make it easier to understand the flow of this study, the researchers visualized in figure 1.1. as follows:

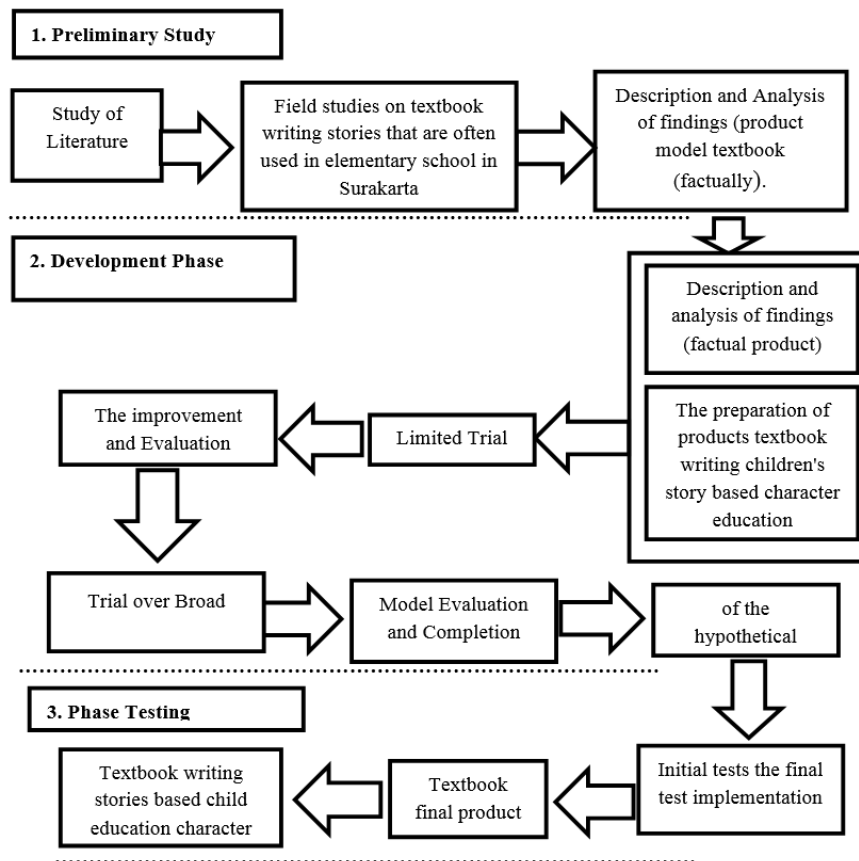


Figure 1.1. Research design

3. Results

The findings of the preliminary study many elementary schools that do not have a device to support activities that implement learning how to write a story that is good and right in accordance inspiring students so that the students be difficulties in arranging or writing stories and often they follow the example of others. All teachers in the pilot study said that for the condition of the book that is often used is a book published is not the newest but it is also the type of book that issue quite a bit that is one of the textbooks and worksheets, therefore such things difficult for teachers to explore students' writing skills.

The all schools in the preliminary study stage does not have sufficient textbooks in particular textbook writing children's story based character education for students, it is very influential on student success in mastering writing skills appropriate children's story. It also led to the teacher in delivering learning to be limited due to the availability of means of supporting books have not been fulfilled

properly. Teachers complain about the difficulty to build attitudes skilled in writing precisely because students tend to be monotonous or passive when writing learning activities so that the students' rated much copied from others, this led to the creativity of the students are not optimal. It also complained about the difficulty teachers inculcate character in students.

From the interviews with teachers, there is a statement that the teacher had tried optimum to instill character values in the learning activities, but by observation it proved to be far from the stages of internalization of the right character. So teachers are only representations advice or suggestions that are less meaningful and reminisce on the inners students.

The technique of collecting data gathered by one interview was successful in gathering some answers from the teachers of fourth grade at the elementary school in Surakarta related to write the story as follows: (1) teachers' difficulties in teaching ways to find ideas for students to be more imaginative and creative, (2) the difficulty teachers instill character values through writing stories, (3) during which the

delivery is what the book improvise without innovation in the delivery.

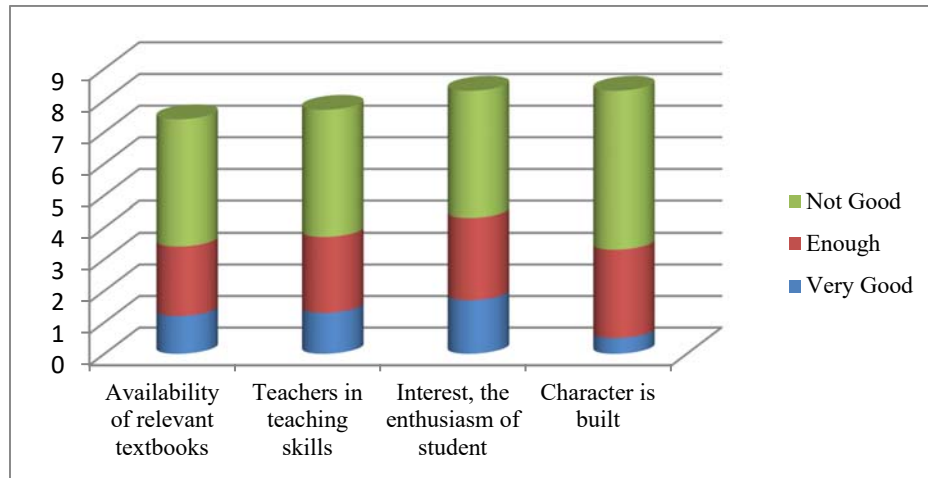


Diagram 1.1. Results of a preliminary study on the mapping of elementary school in Surakarta

Based on the findings of fact in the field that we propose that the importance of meeting the needs of textbook writing children's story based character education to support the process of learning the Indonesian language, as a follow-up effort in the development of textbook writing children's story based character education, researchers continue with the activities of FGD for fourth grade teachers and heads of schools to equate the perceived need for other supporting facilities are textbook writing children's story based character education. FGD implementation of this research aims to open perspective or paradigm and teachers' understanding of the process of learning to write stories and important to internalize the character values in the learning process and to formulate the concept of textbooks

appropriate required as a media escort (other than textbooks) in learning primary school. In addition it also receives inputs from related experts of relevant textbooks.

The stages of preparation of an initial prototype is based on the results of the analysis of the needs and actual conditions in the field are and come along role of teachers and experts, then to do trial limited to textbook writing children's story based character education to elementary school students in Surakarta through sampling techniques cluster random sampling, after testing a limited evaluation and revision of the product through the second stage FGD, FGD's role in this research is primarily in an effort to revise validate and enhance children's textbook writing stories based character education.

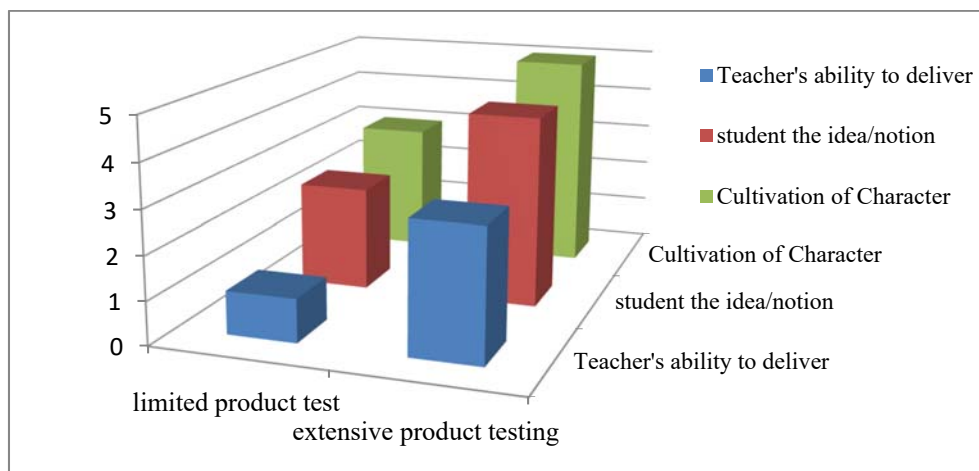


Diagram 1.2. Development phase

Based on the findings of the field in accordance with step limited trial and trial area is obtained from the revision and validation of products this textbook, compliance with which is projected to be able to answer the needs on the ground, then test the effectiveness of the test results of experiments as follows $T_{obs} > t_{(0,025|114)} (5.06195 > 1.98099)$, so H_0 is rejected. This shows that there are differences in the experimental class and control class. In the experimental class figures show more significant improvement than the control class, this is because the experimental class using the textbook writing children's story based character education. While the control class using a conventional book. Certainly from the results of these studies showed textbook writing stories based child a decent education and relevant character in accordance with the needs and conditions in the field.

4. Discussion

At the stage of exploratory study found the problem of teachers and students in writing stories children and low virtuous character, to overcome these problems so make design a prototype textbook writing children's story based character education can optimums ability and skilled students in writing the story. In development studies carried out several steps, including validation tests involving experts and teachers and in trial limited and extensive testing to assess the feasibility of this research performance product. At the last stage performed a test to determine how significant the effectiveness of the positive influence the use of the study product.

The starting from these preliminary studies conducted in-depth analysis into the field which then formulated a prototype development of textbook writing children's story based character education. The role of teachers and experts will validate not only filling but the value of the characters in it were also rated whether it is in accordance with the characteristics of students and easily and practically implemented currently in the process of learning, the next one is undertaken extensive testing. Textbooks product validation is done either by testing the effectiveness outlined in the descriptive quantitative shows the level of eligibility of products for use in the fourth grade elementary school. And proven textbook writing children's story based character education deserves to be used in the process of learning activities and ready disseminated more widely.

It thus in line with the opinions Skaggs & Bodenhorn (2012, pg. 82), which states that the validation of products which includes the value of good character is consistent in applying the principles, respect others, stand for truth, justice and responsibility when facing the choice of behavior and ethics. Planting writing skills by putting bright ideas of students as well as the of the characters in the learning will generate an appropriate output is expected to learn, as evidenced in this study and in line with research conducted by Kessler Craigh (2013 pg79-95) founded creations a brilliant student started from a simple idea to created students according to their interests and their ability to compose, draw, write, and all experiments or lab facilitated a teacher.

The produced a textbook writing children's story based character education is able to optimize the abilities and skills of students in writing stories, the other it was also a positive effect that changes the character of virtuous are becoming more positive towards the better. In a study conducted Matthews, Robert (2012, pg 386-399) use the textbook as a source of learning appropriate learning in the world capable of carrying a child to learn that according to its development and in line with the instructional goals so that the target be achieved with optimum competence.

The results of the above studies can be drawn conclusions as follows: (1) the preliminary studies it is known that many elementary schools in the city of Surakarta yet have a specifications book in the teaching of writing a children's story, so the reality in the field tend to be dominated textbooks and worksheets, so that it is viewed not optimal in learning activities writing children's stories. It makes students become less than optimal in some idea from their imagination to be an interesting article, the necessary textbooks with special specifications to teach the technique to write a story that can facilitate teachers to deliver and facilitate students in honing skills and abilities to write the story. (2) on the internalization process virtuous character need to be embedded in the personality of students from an early age as a form of preparedness in the face of the pace of the changing times that are modern and dynamic, then the FGD revealed the importance of textbook technique to write a story that internalize the character values in it so that the process learning activities student mental attitude embedded in character. (3) the produced textbook writing children's story based character education validated the feasibility test by experts / specialists and execution of test effectiveness.

Based on a series of these tests concluded that the development of textbook writing children's story based character education is feasible and can be used in the process of learning activities in the field. Although the future is possible for further improvements.

ACKNOWLEDGMENT

In this research process cannot be separated from the role of advocates, especially some elementary schools in Surakarta directly involved in the study. The respondents in the field such as the teachers and students who continue to give the information to build a construct of thought for researchers, as well as the expert or experts as valuator development of a major book in the assessment process to create products for the improvement of textbook writing children's story based character education.

Therefore, researchers like to thank all components involved in the research process of this development study. In addition, researchers intend to receive some suggestions and feedback to construct in advancing research development textbook writing of children's story based character education.

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THE INFLUENCE OF TEACHERS TEACHING SKILLS TO STUDENTS LEARNING MOTIVATION OF CLASS X IN PRODUCTIVE SUBJECTS OF OFFICE ADMINISTRATION AT SMK NEGERI 1 CIANJUR

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Abstract

This research is conducted in SMK Negeri 1 Cianjur. The raising issue of this research is about the low of students learning motivation. Students learning motivation is assessed very important for learning process. The research core is focused on one of the factors that influence students learning motivation that is teachers teaching skills. Based on it, the principal problems revealed in this research is there any influence of the teachers teaching skills to students learning motivation. This research consists of two variables, there are teachers teaching skills as X variable and students learning motivation as Y variable. The method that used in this research is explanatory survey method. The technique to collect data was gotten from the questionnaire on the Likert Scale, that is analyzed using simple regression. The number of population was 149 from class X of Office Administration program at SMK Negeri 1 Cianjur, and the sample taken was 60 respondents using Slovin Formula. Based on research results, obtained information that (1) teachers teaching skills of Productive Office Administration at SMK Negeri 1 Cianjur is including the medium category, (2) students learning motivation on class X of Office Administration major at SMK Negeri 1 Cianjur is including the medium category. It means that this school should pay attention and improve the teachers teaching skills, so the students learning motivation is increase, (3) teachers teaching skills has a positive effect on students learning motivation in class X on the subject of productive Office Administration at SMK Negeri 1 Cianjur.

Keywords: Teachers Teaching Skills, Students Learning Motivation.

1. Background Research

The education process is an activity to mobilize all components of education by educators directed towards the achievement of the goals of education, it means that the quality of educational outcomes depending on how the educational process takes place, if the process is carried out properly then the results have to be well and according to expectations. It produce quality human resources created through educational activities are effective.

The problem in this research is the low motivation of students in learning, where motivation has a great impact on the behavior and attitude, the phenomenon of motivation is indicated either by the presence of students in class, both physically and in mind, when students lack the motivation to learn he would not be pay attention when the teacher is teaching, so that students can not absorb the material being taught by the teacher, resulting in unsatisfactory

learning outcomes. In line with the statement, motivation has long been identified as a key parameter for success and academic achievement of students. Motivation to learn is the commitment of students to learn and acquire academic value and to support their future career (Misiran, Yusof, Mahmuddin, Lee, & Hasan, 2016). In line with that proposed by Bomia et al. that motivation is the willingness, need, desire and encouragement students to participate in the learning process and succeed in the learning process (Yung Feng, Jun Fan, and Zhen, 2013). It means when students do not have a strong enough motivation to learn it is likely that students will not have success in the learning process has been gone through.

The success in the learning process is generally evidenced by student achievement in grades, while Theoretically, according to Benjamin S. Bloom, the purpose of education is divided into three domains: (1) Cognitive Domain, which contains behaviors that

emphasize the intellectual aspects, like knowledge, understanding, and thinking skills, (2) Affective Domain, contains behaviors that emphasize aspects of feelings and emotions, such as interests, attitudes, appreciation, motivation and means of adjustment, (3) Psychomotor Domain, contains behaviors that emphasize aspects of motor skills such as handwriting, typing, swim and operate machinery. (Kyriakides, Creemers, and Antoniou, 2009). Based on these three domains, academic achievement can be interpreted as a real skill that can be measured in the form of knowledge, attitudes and skills as an active interaction between the subjects studied with the object of learning during the learning process to achieve learning outcomes.

Motivation consists of internal and external factors that stimulate the desire to achieve the goal. (Ersalin, 2015). Intrinsic motivation involves learning the inherent gratification prompted by the feeling that learning is interesting and fun (Duda & Nicholls, 1992). Then extrinsic motivation involves external incentives for learning, such as getting a reward or avoid punishment (Black & Deci, 2000). In terms of student engagement in the learning process of which is influenced by two factors, namely that comes from within the individual itself as it needs the involvement in teaching, and because the motivation arising from the outside, such as stimulation of the teacher or of the learning environment. (Ahmad Rohani, 2004: 130).

With the existence of the opinion it is clear that teachers have an effect on the growth of student motivation, is through learning activities that are well managed. Creativity and activity teachers should be able to be an inspiration to the students so that students will be more motivated to learn, work and creativity. Teacher in charge strengthen student motivation through presentation of a lesson, sanctions and personal relationships students. In this case the teachers carry out activities that activate children in learning. The role of teachers to manage the motivation to learn is very important and can be done through a variety of learning activities. Through these efforts the weakening of intrinsic motivation can be control by factors that are beyond the students which is a teachers, so that it can be concluded that teachers can affect student motivation through extrinsic motivating expected regularly able to build intrinsic motivation of students.

Student motivation in this study was measured through eight indicators are: (1) the duration of the activity; (2) the frequency of the

activity; (3) persistence; (4) grit, tenacity and ability in the face of obstacles and difficulties; (5) devotion (devotion); (6) the level of aspiration; (7) the level of qualifications of achievement; (8) toward attitudes toward the target activity. (Syamsuddin, 2007).

As for some of the ways that can be done by a teacher to motivate students through teaching methods varied, for repeating information, provide a new stimulus for instance through questions to the learners (Ahmad Rohani, 2004: 12). Lots of other things that can be done by a teacher other than those mentioned above such as account the readiness of students to start learning, using a variety of props, to explain things that are interesting and useful for life as well as associated with the ideals associated with the material being studied. To do that the teacher must have good skills, in this case the teachers' teaching skills, because in teaching skills there are various strategies to be able to motivate students to take an active role in learning so that the learning process is effective. Skills in the teaching is one of the most important skills that must be mastered by teachers to achieve teaching objectives effectively and quickly (Barakat, Saadany, and Abdelrahman, nd, 2015). Teaching skills for a teacher is necessary so that teachers can carry out its role in managing the learning process, so that the learning can be run effectively and efficiently. Besides, the skill is an absolute requirement that teachers can implement a variety of learning strategies (Wina Sanjaya, 2009: 32)

Johnson (2009) Teaching skills drive from their learning through reflective practice in the classroom by applying the theoretical Ideas gained in the process of teaching students to consolidate practical knowledge of teaching, there by contributing to personal development and motivation. And Siwatu (2007) said that Teacher's teaching skills assist student development in practice Student knowledge relates to teaching reality and reflective capacity through self-regulation of learning activities, such as reflective discussion and writing. Specifically, teachers' teaching skills should give students opportunities, Teachers reflect motives and feelings in past and present learning experiences so as to cultivate awareness and challenges embedded in the context of the future and discuss strategies to be more resilient in the face of challenges (Yuan & Jun, 2017)

The skills of teachers relate to students' academic self-development (Bandura, 1986), internal values for learning (Deci & Ryan, 2000), goal orientation (eg, Maehr & Zusho, 2009), and Efforts for Student Effectiveness (Skinner &

Pitzer, 2012). The teacher acts as a mediator in the learning model as social support for academic outcomes. In this case, hope and value communication, relief provision, and emotional support in the context of learning are believed to foster interest and assessment of academic activities (Connell & Wellborn, 1991; Eccles, 2005; Skinner et al., 2009). Teacher skills have a positive effect on support Communication expectations and standards for behavioral and affective positive interactions (eg, emotional support), also encourage positive beliefs about kempuan to complete students' academic tasks (Bandura, 1989; Connell & Wellborn, 1991) in (Wentzel et al., 2016)

At least eight skills that must be possessed by a teacher when there is in learning activities that reinforcement skills, questioning skills, stimulus variation skill, explaining skill, opening and closing the lesson skill, small group and individual teaching skill, classroom management skill, and skills to guide small group discussions (JJ. Hasibuan and Moedjiono, 2012: 58). With the teachers teaching skills, its expected that teacher can be able to create a creative learning and fun that encourages students to be actively involved in learning. Teachers who are skilled in teaching to be one of the causes of failure in teaching, but it also can cause negative effects for the students they teach, they would show a lack of enthusiasm for the lessons that it faces so that learning objectives can not be achieved optimally, The problem can be solved when teachers master various skills to manage the learning process.

2. Methodology

The method used in this research is Explanatory Survey Method. To obtain the data that is accurate and relevant to the problems examined, this study using techniques rating scale questionnaire with answers to the questionnaire used is a Likert scale of five categories of models. Sources of data in this study is one of the students at Vocational High School in Cianjur in Office Administration Program in class X. Based on the sample calculations using figures obtained 59,83 Slovin formula rounded up to 60 then to the sample size is rounded up to 60 and then the sample size in this study will be distributed into 4 classes. Data analysis technique used is multiple regression and correlation product moment.

Data analysis techniques used in this research is descriptive data analysis techniques and inferential data analysis techniques. Data obtained through descriptive data analysis

techniques in this study is used to measure the level of teaching skills of teachers and students' motivation level. Data obtained through inferential data analysis techniques used in this study to determine the effect of teaching skills of teachers to students' motivation. on inferential data analysis, the methods used are using parametric statistics.

The purpose of this study to determine the effect of teaching skills of teachers to student motivation, then the hypothesis in this study is a positive influence between the teaching skills of teachers to students' motivation.

3. Results

Teachers Teaching Skills

Results from this study are described based on the responses of respondents then the description is described according to the Likert scale score category. Teaching Skills for Teachers variable is measured based on eight indicators are broken down into 23 statements taken as a measure of teachers' teaching skills variable, based on the calculation of the 60 respondents. The following is a recapitulation of each indicator in the variable teachers' teaching skills.

Table 3.1 Teachers' Teaching Skills

No	Indicator	Average	Category
1	Reinforcement skills	3,03	Medium
2	Questioning skills	2,99	Medium
3	Stimulus variation skill	3,25	Medium
4	Explaining skill	3,01	Medium
5	Opening and closing the lesson skill	3,17	Medium
6	Small group and individual teaching skill	3,14	Medium
7	Classroom management skill	3,29	Medium
8	Guide small group discussions skill	3,23	Medium
Average		3,13	Medium

The table shows that the average score of respondents to a variable free variable Teaching Skills Teacher is by 3,13. Acquisition of the scores obtained from the average score on each indicator in variable teachers' teaching skills. If our analysis is based on the criteria description scale interpretation of data, the acquisition of these scores are in the range of scores from 2,60 to 3,39 or middle category.

Students Learning Motivation

Variable student motivation in penelitian measured through eight indicators is broken down into 21 statements taken as a measure of students' motivation variable, based on the calculation of the 60 respondents. The following is a recapitulation of each indicator in students' motivation variable.

Table 3.2 Students' Learning Motivation

No	Indicator	Average	Category
1	Duration of activities	2,88	Medium
2	Frequency of activity	3,25	Medium
3	Persistence on activities of interest	2,17	Low
4	Fortitude, tenacity, and ability	3,08	Medium
5	Devotion (devotion) and sacrifice	2,99	Medium
6	Their aspirations depth	2,79	Medium
7	Levels of qualification achievement	3,28	Medium
8	Directions attitude toward the target activity	3,22	Medium
	Average	2,95	Medium

The table shows that the average score of respondents to the dependent variable is the variable students' motivation is at 2,95, the acquisition of the scores obtained from the average score on each indicator in students' motivation variable. If our analysis is based on the criteria description scale interpretation of data, the acquisition of these scores are in the range of scores from 2,60 to 3,39 or middle category.

Test requirements for data analysis hypothesis test including normality test, homogeneity, and linearity test.

Normality Test

On teachers' teaching skills variable, the value $D_{count} = 0,1112$ and a D_{table} at $\alpha = 0,05$ for $D_{(60, 0,05)} = 0,1144$. Thus the value of $D_{count} < \text{value } D_{table}$ ($0,1112 < 0,1144$). These results indicate variable data Teaching Skills Teacher otherwise normal distribution. Meanwhile on learning motivation variable values obtained $D_{count} = 0,1110$ and a D_{table} at $\alpha = 0,05$ for $D_{(60, 0,05)} = 0,1144$. Thus the value of $D_{count} < \text{value } D_{table}$ ($0,1110 < 0,1144$). These results also show variable data motivation to learn otherwise normal distribution.

Homogeneity test

Homogeneity test results concluded that the Teachers Teaching Skills variable (X), the

value calculated $\chi^2 = 0,3825$, and the table values χ^2 at $\alpha = 0,05$ by $\chi^2 = 14,0671$. Thus the value of the table $\chi^2 > \text{calculated value}$. χ^2 These results indicate variable data Teachers teaching skill (X) otherwise homogeneous distribution. Likewise with the students' motivation variable based homogeneity concluded that on Student Motivation variable (Y), the value of count $\chi^2 = 0,1984$, and the table values χ^2 at $\alpha = 0,05$ by $\chi^2 = 14,0671$. Thus the value of the table $\chi^2 > \text{count value } \chi^2$. These results indicate variable data Students Learning Motivation (Y) expressed homogeneous distribution.

Linearity test

Testing linearity variable data X (Teaching Skills Teacher) on variables Y (Student Motivation), obtained F_{count} equal to 1,4016. The value of F_{table} at a significance level of 95% or $\alpha = 5\%$ and db TC = $k - 2 = 31 - 2 = 29$ and db E = $n - k = 60 - 31 = 29$ is: $F_{(1-0.05) (1.8068, 29, 29)} =$ Thus the value of $F_{arithmetic} < F_{table}$ ($1,4016 < 1,8068$). These results show the X variable data (Teachers teaching skill) on variables Y (Students Learning Motivation) is linear. Based on the above results it can be seen that the data on the dependent variable has linearity with data on independent variables.

In the calculation results of hypothesis testing showed that $F_{count} > F_{table}$ or $19,7951 > 4,0069$ then H_0 is rejected and H_a accepted. It can be concluded that a statement stating, "There is no a positive and significant influence between teachers' teaching skills to motivate students of class X of Office Administration on subjects productive in SMK Negeri 1 Cianjur" rejected.

4. Discussion

Based on the calculation above, that proved teaching skills have an influence on students' motivation. It will be explained and described as follows:

Analysis of Teachers Teaching Skills

Based on these results, we can conclude that the level of teaching skills of teachers on the subjects of productive Administration in SMK Negeri 1 Cianjur middle category or can be quite skilled. The highest score of respondents on the variables that teachers' teaching skills that are in indicator classroom management skills with the acquisition of a score of 3,29 while for the acquisition of the lowest average score on a variable teaching skills of teachers are indicators of questioning skills of 2,99 but is still in the moderate category.

Analysis of Students Learning Motivation.

Based on the acquisition of these results, we can conclude that the level of student motivation on the subjects of productive Administration in SMK Negeri 1 Cianjur middle category. The highest score of respondents' answers on students' motivation variable that is currently on the qualification level indicators of achievement with the acquisition of a score of 3,28 while for the acquisition of the lowest average scores on students' motivation variable is an indicator of persistence on activities of interest was 2,17 or are in the category low.

Influence Of Teachers Teaching Skills to Students Learning Motivation Analysis

A teacher has an important role in motivating students that several ways to motivate is through teaching varied, for repeating information, provide new stimulus for example through the questions to the learner (Ahmad Rohani, 2004: 12). Teachers must really can liven up the atmosphere with attention and learning activities to be carried out. The activity is related to how or skills of teachers from start lessons, filling, to end the lesson. It is a way to grab the attention of the teacher students through creative learning activities to be managed through the skills possessed by the teacher. To create a creative learning and fun, various skills. Among them is teaching skills (E. Mulyasa, 2006: 69), then the skills possessed by good teachers, will affect students motivation to keep learning.

Based on a simple regression calculation between teaching skills of teachers and students' motivation resulted in the regression equation $Y = 29,495 + 0,460 (X)$. The equation states that any repairs either addition or subtraction of points or option on teachers' teaching skills, there will be a change in students' motivation by 0,460. The results obtained indicate a correlation coefficient of 0,5044 means that these figures indicate a fairly strong correlation between the two variables. Furthermore, to determine the contribution of variable teaching skills of teachers to students 'motivation to use formula coefficient of determination from the calculation, the value of the coefficient of determination variables teaching skills of teachers to students' motivation by 25,45%. This implies that student motivation is affected by teachers' teaching skills by 25,45%, while the remaining 74,55% influenced by other factors not examined by the authors in this study.

5. Conclusion

The level of teachers' teaching skills positive effect on students' motivation level, it means that the higher level of teachers' teaching skills, the higher the level of student motivation. Thus the implication that can be taken in an effort to improve the results of student motivation, need to improve the teaching skills of teachers.

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ANALYSIS OF FAIRY TALE LEARNING MATERIALS INSIGHT OF CHARACTER VALUES OF THIRD GRADE STUDENT OF ELEMENTARY SCHOOL

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Abstract

The research objectives were analyzed the condition, quality, and feasibility of fairy tale learning materials insight of character values of third grade students of elementary school. The research method was used descriptive qualitative method. Qualitative data collection was used interviews, observation and documentation of pre-survey research and initial field research. Research was performed in Grobogan District which is implemented in some elementary school especially for third grade students of elementary school. The learning materials consist of storytelling insight of character values developed in this research covering 10 character values including characters of religious character, honest character, discipline character, independent character, hard work character, creative character, peaceful character, friendly/communicative character, caring character, and responsibility character that was integrated with learning materials. In these learning materials there are a few examples of fairy tale insight of character values and some questions about the fairy tale content insight of character values. The preliminary research results were performed in some elementary schools in Grobogan District, especially for third grade students of elementary school is still need additional learning materials because the existing learning materials are still broadly, incomplete and the absence of elementary school teachers who design and create learning materials that tailored to the subjects characteristics, the students development, and relevant to the learning objectives at the elementary school. Therefore, there was needed new innovation on the learning materials development insight of character values of third grade students of elementary school as additional learning material for teachers and students of third grade of elementary school.

Keywords: learning materials, fairy tale, character value.

1. Introduction

In the reformation era, the science and technology, improvement of teaching and learning activities should be maximized in order to improve the education quality. Education is a very important factor that affects the attitude and actions of humans in life, so do not be surprised if the nation quality is identical to the education quality. As stated in the Act of the Republic of Indonesia Number 20 of 2003 on National Education System Chapter I Article 1 paragraph 1 that education is a conscious and planned efforts to create an learning atmosphere and learning process so that students actively develop their potential to have spiritual strength, self-control, personality, intelligence, noble character, and skills needed him/his, society, nation and country (Act of the Republic of Indonesia, 2003: 2).

Various efforts have been done to improve the education quality in Indonesia through various trainings of teacher competency improvement, procurement of books and learning tools, improvement of educational facilities and infrastructure, improvement of school management quality, and improvement of learning staff quality. One of the efforts to improve the education quality is through learning materials were expected bring a positive impact on education in Indonesia, especially on the Indonesia Language subjects.

Learning materials become the connector between teachers and students currently acting as facilitators, so the use of learning materials can bridge the problems of students' absorptive capacity and the teachers' ability to manage learning in the classroom. According to Daryanto (2014: 171), "Learning materials are all forms of materials used to assist teachers/instructors in carrying out teaching and learning activities in

the classroom, the material can be either written or unwritten material”.

Learning materials as one of the supporting tools in learning process must be in accordance to the desired competence, without understanding of it, then in learning materials development will face difficulty. This learning materials development activity is an effort to support the education process. The analysis of learning materials were done based on systematic process. In the analysis of learning source is a children fairy tale.

Fairy tale is a story that contains about the fantasies on children's stories that contain the character values of taken from the fairy tale. According to Ibnoe (2016: 13), “Storytelling is one excellent method to improve children's intelligence”. This opinion was supported by the research (Febriani, 2012: 2) entitled of “Development of Banyumas Fairy Tale Appreciation Learning Material for Lower Class Students of Elementary School” stated that “Fairy tale was used as a learning method to obtain information of nation cultural wealth, before the people known writing, the fairy tale is a medium for the cultivation of noble social values from parents and ancestors to the next generation.”

Researchers have been done the field observations on 2-10 November 2016 to the third grade students of elementary school in some State Elementary School of Purwodadi District in academic year of 2016/2017. Based on the initial interviews results with third grade teachers in several elementary schools, the results were obtained that teachers use the handbook from the publisher only, the teachers were revealed that they presents their learning just like in the book. Books from publishers provide very little contextual problems in presenting the learning material. The learning material about the fairy tales reading is incomplete. In general, the book is still broadly and only provides understanding, a few examples related to the story type, and the question is writing exercises. The material was considered to be lacking because without material on how to write a story. Therefore in the learning process of fairy tale reading, teachers only ask students to read the fairy tales without being taught how to process of fairy tales reading. So, learning materials have very important position in the learning process. This is in line with research conducted by Mustafa et al (2016: 1-8) which mentioned that the teacher presents the lesson same as in the textbook. Textbooks that circulate very little to give contextual problems in the presentation of the learning material. The learning material of fairy

tale reading is incomplete. Teachers should used learning materials that match to the subjects characteristics, student development, and relevant to the learning purposes.

Based on the empirical facts and the interviews results with the Indonesian Language teachers about learning materials and students, especially students in third grade in some State Elementary School in Purwodadi District on 2 November 2016 that used the learning materials made by teachers own that have value-added as learning resources as an additional supplement of learning materials for students is still lacking. This was reinforced by interviews conducted by researchers with third grade teachers of Elementary School in Purwodadi District Grobogan Regency and observation during the learning that (1) the absence of fairy tale learning materials insight of character values created by teachers in the Elementary School as a learning source in the student learning activities. (2) The fairy tale learning material that was used still simple and conventional in the form of material and test course so that not yet available the right learning materials in accordance to the students needs which is useful for the daily life of the students. (3) The involvement of students in the fairy tales learning process is still low (4) Students are only given Student Worksheet (LKS) that have not been able to develop knowledge and thinking skills so that students are still difficult in solving the problems posed to them, (5) The fairy tales learning materials are full with the explanation that not in accordance to the learning material. (6) student activities are in the form of assignments/exercises that exist in the learning materials, (7) there is a material description is not in accordance with basic competence, (8) the learning materials were not equipped with scoring criteria, and (9) the appearance of textbooks less interesting because used blurry paper and black and white images.

Based on the above reality problems, its need the fairy tales learning material made by teachers used interesting value-added and can motivate students to create a more active, creative, collaborative, and constructive learning atmosphere. So the development of fairy tale learning materials were required the added and used values for the daily life activity of students by embedding the characters values in it. The fairy tale learning material should have the character values, so it becomes an example to the child's behavior to be implemented in everyday life in studying the subject matter. One of the learning sources is a fairy tale learning material that is able to develop the knowledge and skills of Indonesian language in absorbing the subject

matter in the fairy tale learning material with the implanted character values.

Several elementary schools in Purwodadi District Grobogan Regency found little fairy tale material with good quality for students and teachers in each level of education unit, because the location which is slightly away from urban cause lack of human resources and professional teachers in create a work of learning materials, especially fairy tale learning materials insight of characters values.

Referring to the above experts' description, the character values are one of the right solutions for third grade students of elementary school on fairy tale learning material. Because in the analysis, the fairy tale learning materials were contained the characters values that can be taken from the wisdom of behavior that is told through the characters contained in it to improve the intensive reading skills in Indonesian language learning in elementary school. This was supported by the development research that has been done by Febriani (2012: 2) entitled of "Development of Banyumas Fairy Tale Appreciation Learning Material for Lower Class Students of Elementary School" stated that the planting of character values can be done through communication efforts, the fairy tales reading is one of efforts that can be made to establish communication and understanding and planting the character values through fairy tales will give a deep impression that will be easily applied by students in everyday life.

According to Mustari (2014: 8), "Character values are character education efforts that can improve the quality of current and future generations". The character values developed in the fairy tale learning material development to improve the intensive reading skills as supporting data have been measured using indicators in 18 character values are summarized into 10 character values that can be applied in the daily life of the student including characters of religious, honest, discipline, independent, hard work, creative, peace, friendly/communicative, caring, and responsible.

Besides that, Mustari (2014: 4) stated that if you have a year plan then plant seeds, if you have a decade plan then plant a tree, if you have all time plan then cultivate character education. So it is very important to implement the characters values in learning, one of them through the development of fairy tale learning materials insight of character values. This is reinforced by the development research conducted by Ulum, (2014: 131) entitled of "Development of Intensive Reading Textbooks Based on Character in Elementary School" said that the education of

personality/ character is important implemented to equip learners to live independently and better.

Based on the above background, it is necessary to analyze the condition, quality and the feasibility of the fairy tale learning material, the researcher intends to conduct a research entitled of "Analysis of Fairy Tale Learning Materials Insight of Character Values of Third Grade Student of Elementary School".

Based on the background described above, the problem in this research are: 1) What was the condition, quality and feasibility of fairy tale learning materials insight of character values in the third grade students of elementary school in Purwodadi distric Grobogan regency?

The research purpose was described and explained the condition, quality and feasibility of fairy tale learning materials insight of character values in the third grade students of elementary school in Purwodadi district of Grobogan regency.

The research benefits are theoretical and practical benefits. The theoretical benefits are: 1) The fairy tale learning material insight of character values can give contribution to the Indonesian language learning theory; 2) Enrich the treasures of knowledge, especially Indonesian language learning. While practically benefit for some parties such as students, teachers, schools, researchers, and policy makers: 1) This research result can increase the teachers' motivation for offer one of the alternatives of fairy tale learning models insight of character values to the third grade students of elementary school in Indonesian language learning; 2) As a reference or example of motivation to develop a fairy tale learning model insight of character values for grade 3 students of elementary school to be more varied and innovative.

2. Method

This research was used descriptive qualitative research method (Sugiyono, 2015: 78). This research was used techniques of interview, observation, and documentation based on research needs analysis (field and literature study), through field trial process. The study purposes were disclosed the events or facts, circumstances, phenomena, and variables that occur when research takes place by presenting the reality events. This study was interpreted and described the data concerned with the current situation, attitudes and views that occur within a society, the contradiction between two or more circumstances, the relationship between

variables that arise, differences between existing facts and their effects on a condition, etc.

This stage is an activity in the preliminary study by collecting initial information through observation and interview. Observation was done to find out the old learning materials in the learning process of intensive reading skills of fairy tale learning material. Interviews were conducted to students to support observation results as well as to classroom teachers.

The research objectives in the preliminary stage are (a) to review the feasibility and quality of existing fairy tale learning materials; (b) to review the condition of learning materials of teacher and students on fairy tale learning material insight of characteristic values. A more detailed explanation of the implementation of this stage was described as follows:

The first stage of this research is an exploratory study that is generally intended to track the quality of existing fairy tale learning materials and used by third grade students of some state elementary schools in Purwodadi District Grobogan Regency. The main purpose of this activity was provided an overview of the quality or feasibility of existing fairy tale learning material. The next activity was analyzed the condition of the fairy tale learning material insight of character values to be developed. Specifically, research at this stage was done to obtain in-depth information about the following:

1. Direct responses from teachers and students related to the fairy tale learning material.
2. Determined the fairy tales learning materials that need to be developed based on the assumptions of teachers and students.
3. The real condition in the field about the existence and the feasibility of fairy tale learning materials used by third grade students in some elementary schools in Purwodadi District Grobogan Regency.
4. The real condition about the needs of teachers and students on Indonesian language subjects of third grade students in some elementary school in Purwodadi District Grobogan Regency related to the fairy tales learning material insight of character values

Preliminary study through several stages: 1) Exploration study, namely the study to some elementary school in the Purwodadi District Grobogan Regency. Researchers was conducted field studies into 5 elementary schools namely SD Negeri 1 Danyang, SD Negeri 2 Danyang, SD Negeri 3 Purwodadi, SD Negeri 4 Purwodadi, and SD Negeri 16 Purwodadi. Field study purposes were determined the condition of

learning materials used in the teacher that will be easily applied by students in everyday life.

The condition of teachers and students learning materials related to the fairy tales learning material. This activity purposes were determined: (a) the quality of fairy tale learning materials; (b) the implementation of fairy tales learning used old learning materials; and (c) identification of the needs of teachers and students related to the improvement of fairy tale learning material; 2) Literature study, aimed to find the based concepts or theoretical that can strengthen or support efforts to improve the quality of fairy tale learning in Indonesian language learning in elementary schools; 3) Based on the description of the findings and conditions of materials learning of teachers and students in the field were equipped with a variety of theories and concepts in the literature study then prepared the prototype of fairy tale learning materials insight off character values.

Data collecting technique at the introduction stage were used techniques of interview, observation, and documentation, referred to Sugiyono, (2015: 73) about the data collection step of interview and documentation. In-depth interview was performed to the resource persons. Interviews were focused on the scope of fairy tale learning materials insight of character values were used third grade students of some elementary school in Purwodadi District Grobogan Regency. Interviews were conducted on third grade teachers and students of Elementary Schools in some elementary schools in Purwodadi District Grobogan Regency. Interviews were conducted on the teachers, namely Mr. Nardi as the third grade teacher of SD Negeri 1 Danyang, Mrs. Desi the teacher of SD Negeri 2 Danyang, the Mrs. Etik teacher of SD Negeri 3 Purwodadi, Mr. Anto the teacher of SD Negeri 4 Purwodadi, and Mr. Untung teacher of SD Negeri 16 Purwodadi. Interviews with students were conducted on 8 randomly selected students. Interviews were conducted in this study are in-depth interviews and observations about field conditions in the elementary school. Afterwards was documented all the interview and observation activities in the elementary school. Observation was conducted in a planned and controlled manner. This observation activity also comes with pre-prepared field notes. The researcher also observed the learning activities in the classroom on the Indonesian language subjects on fairy tale learning material insight of characteristic values used by third grade students by using pre-existing learning materials and asking some informants to fill out questionnaires that have been prepared by researchers.

Researcher was performed observations about the learning process in the class then prepared the field note about data obtained from observations.

Research population is all of third grade student of elementary school in Purwodadi District Grobogan Regency. The research samples are third grade teacher and student of SD Negeri 1 Danyang, third grade teacher and student of SD Negeri 2 Danyang, third grade teacher and student of SD Negeri 3 Purwodadi, third grade teacher and student of SD Negeri 4 Purwodadi, third grade teacher and student of SD Negeri 16 Purwodadi.

The reasons for choosing this location are as follows:

1. The researcher is one of the teachers who have taught in elementary schools in the Purwodadi district Grobogan regency.
2. State Elementary School in Purwodadi District, Grobogan regency has never been used as an object similar research, so avoid the other people study. The selection also was expected to facilitate researchers in conducting a series of research process activities.
3. Some of elementary school chosen as research objects has the same quality of school accreditation.
4. The grade chosen is the third grade in the elementary school used the same curriculum that is the Education Unit Level Curriculum
5. Development of fairy tale learning materials insight of character values are not yet contained in the elementary school in Purwodadi District Grobogan Regency.

The data sources of in this stage are: (a) analysis of learning materials documents used by teachers and students and supported by complementary sources in the form of documents related to the problems in this research, such as curriculum, syllabus, lesson plan, score list, evaluation tools, and others relevant documents; (b) interview data from informants such as: teachers and students in the written form according to research needs; (c) the field observations results during the learning process take place; (d) description of finding of learning materials needed by teachers and students; and (e) document analysis in accordance to the guidance of the assessment of the feasibility of learning materials and research questionnaire results at this stage. The data sources are qualitative information.

Data sources were obtained from informants who act as research subjects. The research subjects were Indonesian language teachers and third grade students in some elementary schools in Purwodadi District

Grobogan Regency in the academic year of 2016/2017. Indonesian teachers beside as a data source also become collaborators in this research. It is said that because the key to successful research that tests the effectiveness of learning lies in the collaborator that is teachers.

Data research sources of preliminary stage is a number of information about fairy tale learning material used by third grade students of some elementary school in Purwodadi District Grobogan Regency.

Data analysis techniques were data collected in this research is non numerical data that is in the form of behavior and oral language. Data analysis in the exploratory study stage was conducted by interactive qualitative analysis according to Miles and Huberman (1984) consists of three components: (1) data reduction; (2) data display; and (3) conclusions/verifications (in Sugiono, 2015: 247).

3. Result

a. The analysis result of Fairy Tale Learning

Students have difficulty in fairy tales reading learning. Until now the reading skill of fairy tales in understanding the fairy tales contents is not maximal. Then in the learning process found that (1) the absence of learning materials insight character values created by teachers in the Elementary school as a learning source in the learning activities. (2) The fairy tale learning material that be used is still simple and conventional in the form of material and test course so that not yet available the right learning materials in accordance with the students needs which is useful for the students daily life activity. (3) The involvement of students in the fairy tales learning is still lower and student response is passive. (4) Students are only given Student Worksheet (LKS) that have not been able to develop knowledge and thinking skills so that students are still difficult in solving the problems that they faced. (5) The fairy tales learning material is too much with the explanation that not suitable to the learning topic. (6) Student activities in the form of assignments/exercises that exist in the learning materials. (7) There is material description is not in accordance to the basic competence. (8) The learning materials are generally not equipped with scoring criteria. (9) The appearance of textbooks less attractive, using blurry paper, and black and white images.

b. The analysis results of learning materials document

Teachers were disclosed that they present the lessons same as in the book. Books from publishers are provided very little contextual problems in presenting the material. The material about fairy tales reading learning is incomplete. In general, the book is still broad and only provides understanding, related to the type of story, the exercise in the form of writing exercise, the material was considered less because without materials about how to read the fairy tale especially for third grade students of elementary school in Purwodadi District Grobogan Regency.

4. Discussion

The discussion results was they present the lessons same as in the book. Books from publishers are provided very little contextual problems in presenting the material. The material about fairy tales reading learning is incomplete. In general, the book is still broad and only provides understanding, related to the type of story, the exercise in the form of writing exercise, the material was considered less because without materials about how to read the fairy tale. Therefore, in the learning process teachers only ask learners to read fairy tales without being taught how the process of fairy tales reading. So, the learning materials have a very important position in the learning process. This is in line with research conducted by Mustofa, et al. (2016: 1-8) which stated that teachers present lessons just like in textbooks. Textbooks provide very little contextual problems in presenting material. The learning material about fairy tales reading is incomplete. Teachers should used learning materials that are appropriate to the subject characteristics, student development and relevant to the learning objectives.

5. Conclusions and Suggestions

Based on the research entitled of "An Analysis of Fairy Tale Learning Materials Insight of Character Values of Third Grade Student of Elementary School of Purwodadi District Grobogan Regency" it can be concluded that the existing learning materials in elementary school is still not extensive and still less complete and learning materials from publishers are not from the teacher work himself. The learning implementation using fairy tales learning materials in elementary schools has not fully meet the principles of fairy tale learning materials insight of character values.

The suggestions that can be given about the learning materials are (1) Need new innovation

about fairy tale learning materials insight of character values for third grade students of elementary school; (2) learning materials should be prepared with appropriate approach to the student ability so that can improve student's reading skill in the fairy tale learning material insight of character values in third grade students of elementary school.

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The author realized that the paper writing is still a lot of shortcomings; therefore, authors expect suggestions and constructive criticisms to improve this paper. Finally, the authors hope that this paper will be useful for education as a reference and alternative to increase the knowledge and learning materials innovation.

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EVALUATION OF HEALTHY SCHOOL PROGRAM AT SD NEGERI KUTOWINANGUN 04 SALATIGA ACADEMIC YEAR 2014/2015

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Abstract

The study aimed to evaluate the context, input, process, product of Healthy School program in SD Negeri Kutowinangun 04 Salatiga. This study was evaluative research using CIPP model of evaluation (*Context, Input, Process, Product*). The technique of collecting data using interviews, observation and documentation. Some of the steps being taken in the analysis of the data included: data collection, data reduction, data display and verification. Validation of data using triangulation techniques and resources. The results showed: (1) from the aspects of Context, the Healthy School program was the policy of the central government to improve the quality of education through the improvement of students health, in addition to the schools' needs, especially the students in SD Negeri Kutowinangun 04 Salatiga were still low level of health, (2) from the aspect of Input, design program proved to be able to answer the need for the program to address the low level of students health, and supported by human resources, facilities and infrastructure, adequate cost, 3) from the aspect of Process, Healthy School Program has been run in accordance with program planned but on its implementation there were obstacles where schools have limited funds and inadequate infrastructure, and (4) from the aspect of Product, all targets to be achieved in program planned has been reached so that impacted the improvement of the quality of education in SD Negeri Kutowinangun 04 Salatiga and therefore eligible to continue in the next period with several aspects improvements.

Keywords: Evaluation Program, Healthy School, CIPP

1. Introduction

Hamiyah dan Jauhar (2015) stated that unhealthy behavior is caused by unhealthy environment, such as the lack of clean house, school, or community environment. The low level of effort to raise the awareness of clean and healthy life to learners, impact on elementary school students who have not fully know how is the right way to maintain personal or environmental health. This is in line with the results of study by Teguh (2012) that there are still students who suffer from skin diseases, letting the hair and nails extend unkempt, suffering from cavities, less clean and tidy in dress, less serious in exercising every Friday morning, often littering, students snack carelessly and do not pay attention to the hygiene of snacks. The results are also in line with the study Diana (2013:48) which indicated that the implementation of a low clean and hygienic

behavior program can result in a low quality school environment and high rates of illness affecting school-aged children. Therefore the Government issued a policy as an effort to improve the health of students with the program named "Healthy School".

Healthy School is a school that successfully helps students excel optimally by promoting health aspects. Healthy School is always trying to build physical health and spiritual health through understanding, ability, and responsible behavior, the best decision to create health independently can be realized (Arthur dan Barnard, 2011:4). Understanding above in line with research conducted by Hermiyanti (2016:14) that the Primary School of Clean Health is an Primary School whose citizens constantly civilize clean and healthy life behavior, and has a clean, beautiful, cool, fresh, neat, orderly, and safe school environment.

According to the Healthy School Model Development Guide in Indonesia (2009: 4), the benefits of the Healthy School program includes: 1) for the community as a place to produce students who have a healthy and active life, 2) for the government as a place of learning that can be used as a model for other schools because it is expected that the school can produce Quality resources, and 3) for the private sector or the work world that can provide opportunities for the private sector to play a role in the development of Healthy School.

While the National Education Ministry of Directorate General of Basic Education (2009: 9) explained that the Healthy School standard includes: 1) Physical school standards that include: school buildings that meet minimum standards of the national education department, a school has accreditation from government, at least B, schools that meet health requirements (physical, mental, environmental), schools with fences, schools that have adequate open space for physical education, and schools have a certificate of property. 2) standards of infrastructure facilities that include: having infrastructure for adequate health education, having infrastructure for physical education, having supporting facilities for School Health Unit activities, 3) standards of human resources include: having physical education, sports and health teachers, having a School Health Unit teacher, having a school health cadre (small doctor, youth health cadre), 4) standards of learners that include: have the optimal health, optimal growth, and have an optimal level of physical fitness.

SD Negeri Kutowinangun 04 Salatiga is one of the State Elementary School in Salatiga city that has implemented Healthy School program since 2009. Based on interviews with the Principal, since the beginning of the program of Healthy School in elementary school that has never been done research to evaluate the implementation of the program. Therefore, researchers are interested to evaluate the Healthy School program that has been running for about 7 years. Arikunto dan Jabar (2014: 17) stated that the evaluation of the program is an effort to determine the effectiveness of program components in supporting the achievement of program objectives. The purpose of program evaluation is to determine whether the service or intervention has achieved the stated objectives and to know with certainty whether the achievement of results, progress and obstacles encountered in the implementation of the program can be assessed and studied for improvement of future program implementation (Wirawan: 2011).

This study uses the CIPP evaluation model developed by Stufflebeam in 1966. According to Arikunto & Jabar (2014), if evaluation activities use CIPP model, program analysis must be based on those components (CIPP), components in CIPP evaluation model can be explained as follows: 1) context evaluation seeks to identify unmet environmental needs, sample populations served and program / project objectives, 2) input evaluation seeks to identify the initial capabilities of existing components (students or schools) in supporting the implementation of the program, 3) process evaluation identifies the implementation of a program that may include what program will be implemented, who the program organizer is, the timing of the program, and 4) product evaluation seeks to identify the things or changes that occur in the implementation of the program, as well as the achievement of the program implementation.

Based on the above problem, this research will evaluate context, input, process, and product of healthy school program at SD Negeri Kutowinangun 04 Salatiga. The purpose of this study is to provide recommendation to SD N Kutowinangun 04 Salatiga about the implementation of good and correct Healthy School program and to evaluate context, input, process, and product of healthy school program at SD Negeri Kutowinangun 04 Salatiga.

2. Research Methods

This research includes evaluative research using CIPP model. The research was conducted at SD Negeri Kutowinangun 04 Salatiga with the address of Jalan Butuh 1-A RT 004/09 Kota Salatiga. Sources of information include: Principal, Teacher, Healthy School Program Coordinator, and State Elementary School Teacher Kutowinangun 04 Salatiga. Data on feasibility studies, analytical results, organizational decisions, schedule of activities, program plans, charters and program implementation reports are also sources of data in research. Data collection techniques used in research evaluation of Healthy School program at SD Negeri Kutowinangun 04 Salatiga is interview, observation, and documentation study. Some of the steps taken in data analysis in this study include: (1) Data collection, (2) Data Reduction, (3) Display Data, (4) Verification / Conclusion data. The data validity test used in this research using triangulation technique of source and tringulation of technique.

3. Research Result

Context Evaluation of Healthy School Program at SD Negeri Kutowinangun 04 Salatiga

Based on the results of interviews and document review, the background of the implementation of this program was the direct appointment by the central government to SD Negeri Kutowinangun 04 Salatiga to organized the program because the central government viewed the school as capable and decent in terms of human resources (principals, teachers, education personnel, student, committee), environment and infrastructure in supporting the smoothness of the implementation of healthy school programs in addition to answer the needs of schools as an effort to improve the health of students who were still classified as low. The goal of establishing a Healthy School program at SD Negeri Kutowinangun 04 Salatiga was to improve the health and physical fitness of the school's citizens; In order to have adequate facilities and infrastructure for physical education and to create a clean and healthy school environment which will also affect the process of teaching and learning in school and the ultimate goal was to improve the quality of school education both academic and non academic achievement. The expected benefits of the Healthy School program were the increased level of health and physical fitness of students that impact on improving the quality of education in schools, making the environment cleaner and healthier and making learning conditions more comfortable and school performance improving, parents and communities were more calm to entrust their children because the healthy lifestyle in school will carry on in community life, and schools can produce the resources of the next generation of quality nations. The target of Healthy School program was student, teacher, education personnel, principal, environment, facilities and infrastructure.

Input Evaluation of Healthy School Program at SD Negeri Kutowinangun 04 Salatiga

In terms of input SD Negeri Kutowinangun 04 Salatiga has made the planning before the implementation of a healthy school program. There were several areas in that planning that will be developed in the Healthy School program which covered 6 areas: Development of Learning Program, Facility and Infrastructure Development, Development of Human Resources, School Management Development, Partnership Program Development, and Financing. In addition, this plan also has a set of implementation schedule, responsible and

involved human resources, infrastructure and costs necessary to support the implementation of every activity in the school program health. All school residents from principals, teachers, education personnel, school committees, students were also involved in the planning.

In running the Healthy School program, SD Negeri Kutowinangun 04 Salatiga receives financing assistance from the Central Government through Directorate of Physical Quality Development Center-Ministry of National Education. The amount of aid provided was 67.6 million rupiah granted in Year 2009. The funds were used at the beginning of the implementation of a healthy school program at SD Negeri Kutowinangun 04 Salatiga to complete infrastructure facilities (physical construction of schools). In the following years, the school used school operational assistance funds and grants from the committee or the private sector in running the School of Health programs, especially those related to non-physical areas. The mechanism of the implementation of a healthy school program implemented in SD Negeri Kutowinangun 04 Salatiga was guided by the government and technical guidelines in which the principal, the head of the healthy school program and the teacher who has been appointed as the responsible person in the implementation. The mechanism of channeling funds from the center to schools was also very clear from the process, the amount, and the use of funds for healthy school programs were in accordance with the procedures of the government.

Evaluation Process of Healthy School Program at SD Negeri Kutowinangun 04 Salatiga

Development of Learning Program

Implementation of Learning Program Development, running well and even from 2014 and 2015 has increased. Constraints faced so can not reach the target 100%, which was the budget. The active role of "peer educators" in healthy life skills education has not yet reached 100% success. This was caused by the knowledge and ability of students in terms of healthy life skills education was also still limited. In addition, many students were not confident when explaining their knowledge about health to other friends. While on the aspect of reporting assessment to parents in 2014 and 2015 already run according to desired target. Factors that supported the smoothness of these activities can not be separated from the participation of all school residents ranging from principals, teachers, education personnel, school

committees, students and also parents of students.

Development of Facilities and Infrastructure

In the subprogram of health education facilities and facilities the school did not have a counseling room specifically used to guide and provide direction to students in need. The absence of counseling room in SD Negeri Kutowinangun 04 Salatiga was caused by the school did not have enough land to build a counseling class and also not yet available funds to expedite the development process. In the implementation of UKS infrastructure development, most of the equipment was already available in school health unit at SD Negeri Kutowinangun 04 Salatiga. In implementing the development of physical education infrastructure facilities, there were still many indicators that have not reached the 100% target, which was the classroom indicator fulfills the health requirements (ventilation and lighting), has open field and / or hall, and the existing field was feasible for PBM physical education. This was caused by the school has not been able to renovate the classrooms that meet health requirements such as those in the regulations.

Development of Human Resources

Most indicators in human resources development have reached the target, but there were 2 indicators that were still less than the target namely having less counseling teacher and also school health unit teachers trained at SD Negeri Kutowinangun 04 Salatiga. There was no teacher who specifically became a counseling teacher to handle child issues. Counseling teacher was also a homeroom teacher which supervised and guided by the principal.

Development of school management

Implementation of school management development aimed at fulfilling the design of Healthy School criteria at SD Negeri Kutowinangun 04 Salatiga has been implemented well, in which from 12 indicators in the school management development program there was only 1 indicator that was still far from the expectation that there was a focus group discussion forum from peer educators or peer counselor. Factors that become obstacles were peer educators who were still aged children and should be made an example by other friends were still less confident to discuss and exchanging their opinion.

Development of Partnership Program

Almost all activities have been done well but there still was an increase in each indicator from 2014 to 2015 although all indicators have not reached 100% success. But it was contrary to

indicators of support from local governments and councils. These indicators have not been able to materialize well due to the lack of attention given by the local government and the council towards the healthy school program. Obstacles that hinder the development of partnership were derived from the limited time held by principals and teachers who should be responsible for collaborating with partners.

Development of Financing

Implementation of financing development of healthy school program at SD Negeri Kutowinangun 04 Salatiga has been running well. The attention given from the Local Government was very minimal; it was evidenced by the lack of financial support from the Regional Expenditure Budget for Healthy School program. School used school operational grants and financial support from private parties and parents. Factors supporting the development of the financing were the existence of a great awareness of parents to support every activity of a healthy school program. In addition, the ability to establish cooperation with private parties and manage the financial of school operational grants funds by the school also greatly affects the financing of healthy schools.

Product Evaluation of Healthy School Program at SD Negeri Kutowinangun 04 Salatiga

SD Negeri Kutowinangun 04 Salatiga has achieved the goal and target of Healthy School program well. Achievement of objectives and initial targets was evidenced by the value of physical fitness tests students per semester, improvement of clean and healthy lifestyle of school residents was evidenced by student achievement that has increased 5% per semester, the improvement of facilities and infrastructure of physical education previously only available 50% increased to 85%, the creation of a clean and comfortable school environment for learning activities was evidenced by environmental documentation SD Negeri Kutowinangun 04 Salatiga.

4. Discussion

Context Evaluation

Evaluation of the context of the Healthy School program at SD Negeri Kutowinangun 04 Salatiga showed that a healthy school program was needed by school stakeholders. In addition to the Government's policy, the School Healthy Program is also needed by schools considering the very low student health levels. The goals and benefits of the Healthy School program are also strongly felt in helping schools achieve optimal quality of education. The results are in line with

the study undertaken by Sari (2013) that the goal of health education was to change unhealthy behaviors to be healthy both in individuals, groups, and communities. Students as subjects in learning health education are expected to implement healthy living in everyday life.

Input Evaluation

Healthy School Program at SD Negeri Kutowinangun 04 Salatiga viewed from the aspect of the input has answered the needs of schools through 6 (six) areas of development namely (1) Development of Learning Program, (2) Development of Facilities and Infrastructure, (3) Development of Human Resources, (4) Development School Management, (5) Development of Partnership Program (6) Financing Development. Each development field consists of several subprograms and activity indicators that are prepared in accordance with the Government-defined Guidelines and equipped with human resources, facilities and adequate infrastructure and funds. The results above are in line with the research by Ahmad (2013) which states that the success of a program is influenced by the availability of funds. In line with these studies, the results of the study by Handayani (2008) also stated that facilities / infrastructure facilities positioned as a supporting factor for the success of a program.

Process Evaluation

Development of Learning Program

Development of learning programs in SD Negeri Kutowinangun 04 Salatiga has been running well that is reached more than 80%. The school has tried to maximize the development of the learning program; because they are aware of the quality of learning programs will also create quality human resources. It is in line with opinion stated by Abdul Majid (2006) that the development of learning needs to be managed well in order to achieve optimal results. To achieve this program, the management of learning is the key to success towards quality learning.

Development of Facilities and Infrastructure

The development of health education infrastructure facilities at Healthy School program in SD Negeri Kutowinangun 04 Salatiga has been well implemented; from 11 indicators there are 10 indicators that have 100% achievement. A complete infrastructure will have an impact on the quality of education in the school. The results of this study in accordance with research conducted by Setyorini (2009) who

found that good facilities and infrastructure have greatly contributed to the success of the quality of education. The more complete and utilized optimally, the facilities and infrastructure of a school would make it easier for students and teachers to achieve the target together.

Development of Human Resources

Development of energy in SD Negeri Kutowinangun 04 Salatiga is good enough. The school already has qualified physical education teachers. In line with Act Number 14 Year 2003 which states that teachers are professional educators who are tasked with educating, teaching, training, guiding, and evaluating learners. Teachers are experienced educators in the field of profession that provides some knowledge to students in school. With his knowledge, teachers can make students become smart and have a good person.

Development of School Management

Development of school-based management to meet the needs of design criteria for healthy school at SD Negeri Kutowinangun 04 Salatiga has been running well. Cooperation and high responsibility of all school residents is the key to successful school management. The results are in line with opinion by Danim (2012) who said that one of the factors supporting the improvement of education quality in schools is the Cooperation Network, where the cooperation network is not only limited to school and community environment (parents and community) but with other organizations, such as companies / institutions so that the output from schools can be absorbed in working world.

Development of Partnership Program

The development of partnership program in SD Negeri Kutowinangun 04 Salatiga runs quite well, only support from local government and council for Healthy School program is still very low. The low support from the local government is contradictory to the opinion of Dwiyanto (2005) who said that the Regional Government should have a policy to provide services to the community or educational institutions related to existing programs and run by the community or related institutions.

Development of Financing

The development of the financing of a healthy school program in SD Negeri Kutowinangun 04 Salatiga has been running well. Funds of healthy school programs come from the Central Government and assistance from parents. The school principal and treasurer must be good at allocating part of the schools operational grants to be used in the implementation of the Healthy School program. It is in line with opinion of Fattah (2009) who

said that if it is not possible to rely fully on government subsidies, it is necessary to absorb public funds, but not to burden learners from disadvantaged family backgrounds.

Product Evaluation

SD Negeri Kutowinangun 04 Salatiga has achieved the goal and target of Healthy School program well. The impact that has been felt is the health of students and other school residents become more optimal so as to improve student achievement both academic and non academic. Health is one of the determinants of student learning success, in line with opinion of Kartono Kartini in Tulus Tu'u (2004) said that factors that hamper student achievement include inhibitors from within and external obstacles. Inhibitors from within include one health factor. Students whose health is often disturbed cause children left behind lessons, therefore parents and schools should pay attention to the health of their children with nutritious food and healthy lifestyle. Otherwise if the students health is optimal then the they will be maximized in the lesson. The Healthy School Program should be continued in SD Negeri Kutowinangun 04 Salatiga for the following years although there are still many improvements in the implementation of program activities.

5. Conclusion

In terms of *context*, the Healthy School program is needed by stakeholders in SD Negeri Kutowinangun 04 Salatiga. In terms of *input* Healthy School Program at SD Negeri Kutowinangun 04 Salatiga has answered the needs of the program through six areas of development prepared in accordance with the Government Technical Guidance and equipped with human resources, facilities and infrastructure as well as adequate funds. In terms of *process* of Healthy School program in SD Negeri Kutowinangun 04 Salatiga has been implemented in accordance with program planned although there are still encountered obstacles in the implementation of the limited costs and infrastructure facilities. In terms of *product* implementation of Healthy School program at SD Negeri Kutowinangun 04 Salatiga has resulted in a) physical school becomes better and complete, b) improvement of health and physical fitness of school residents, c) establishment of clean and healthy lifestyle of school people, d) school environment become more clean and comfortable to learn.

6. Recommendation

There are several recommendations that the researchers convey to improve the implementation of Healthy School program in the next period, namely:

1. For the school
 - a. Schools should be more intensive in collaborating with other parties (private sector, committees, parents, Regional Expenditure Budget) and those associated with other healthy school programs to obtain financial support in support of program implementation.
 - b. Schools should provide the facilities and infrastructures such as counseling teacher room, hall room, a special room for garbage bank collection and also a place or making compost.
2. For the Education Agencies
Education Agencies need to monitor and evaluate the implementation of healthy school programs in every school implementing such program, especially in SD Negeri Kutowinangun 04 Salatiga. Thus, the Education Agencies can take policy in the form of improvement or completion of the process of organizing a Healthy School program in the future.
3. For Funding Agencies (Center Directorate for Quality Development of Physical)

The Healthy School Program should be continued with refinement and financial support considering the many benefits of this program.

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INTERFAITH COMMUNICATION AS A SUBJECT AND PRACTICAL LIFE (A CASE IN MANGUNAN EXPERIMENTAL ELEMENTARY SCHOOL)

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Abstract

Indonesia is an archipelago. There are more than 17.000 islands which also consist of hundreds of culture, languages, and religions all over the country. This is a fortune to have great diversity, but on the other hand this is also a threat for the country if the people do not have great tolerance. Nowadays, there are some problems related to race and religion tolerance. Therefore, education institutions have to do something to prepare the students, early from basic education to prepare the next generation to be more tolerant for better humanity in Indonesia. Father YB Mangunwijaya, Pr., a clergyman who dedicated his rest of life in basic education, introduced 'Interfaith Communication' as a subject at school. In SD Kanisius Mangunan (Mangunan Experimental Elementary School), the subject is called 'Komunikasi Iman'. Father YB Mangunwijaya did the experiments at SD Kanisius Eksperimental Mangunan Yogyakarta since 1994 until he died in 1999. In fact, 'Komunikasi Iman' (Interfaith Communication) is not only a subject in class, but also directly being practiced by the students. As a subject at school, 'Interfaith Communication' is held once a week in class. Students learn about religiosity, as the language of communication beyond all religions. They learn about life and how they should have good relationship with themselves, others, nature, equipments, and God. In Indonesia they are called '5A' (Aku (Self), Anda (Others), Alam (Nature), Alat (Equipments), and Allah (God)). As a practical life, all the materials in the subjects are designed based on students' everyday life. Therefore, they reflect their experiences; learn to choose which is good and which is not good in relation to the '5A'. The reflection has impact on students' everyday life. By practicing this 'Interfaith Communication', hopefully students will have better quality of life.

Keywords: interfaith communication, elementary school, religiosity, reflection, Mangunwijaya

1. Introduction

Indonesia is an archipelago. There are 34 provinces in about 17.000 islands [1]. This condition makes Indonesia rich of cultures, languages, resources, and also religions. Therefore, the motto 'Bhinneka Tunggal Ika' (means 'Unity in diversity') is very important for Indonesia. The large ethnic groups are Javanese, Dayak, Malay, etc. The religious diversity occurs between people with different religions and even within people in the same religion [2]. This means that this country has a big duty to deal with diversity.

There are many studies has made about diversity, and in this writing, the writers are going to review what Father YB Mangunwijaya, Pr, an Indonesian clergyman, who was also an architect, a writer, a religious, and also an educator. He did an experiment about dealing with Indonesia's diversity since 1994 in a small elementary school 'SD Kanisius Mangunan' in Berbah, Sleman, Yogyakarta Special Regency. In this school, he introduced 'Interfaith

Communication' (it is called 'Komunikasi Iman' in SD Kanisius Eksperimental Mangunan). We need religion, but what we need most is to be religious [3].

In article 1 of UUD 1945 (Indonesian Constitution) third revision, stated that Indonesia is a state law (constitutional country). Indonesia is not a theocracy. But religion is important for Indonesians, because it is one of the things which state personal identity. We state our religion in Identity Card [4].

Ruslani, in his paper "Multikulturalisme dalam Pendidikan Agama Antara Kenyataan dan Harapan" indicated three things about interpersonal relationships: firstly, religion is the most dominant part to identify a person; secondly, a kind of religion is not one religion but in one religion there are more than one stream (mazhab) or ideologies; and thirdly, doctrines of truth that is being taught through early formal education has grown fanaticism in most people. Then it influences their attitudes toward other religions as 'the other' [4].

In fact, religion is not a goal. Religion is the way to reach the goal. And the goal of all religions is to be religious [5]. Therefore we can state that religiosity is the 'language' beyond all religion.

Religiosity is about the relationship between human and the Creator. It is about loving and admiring every great and wonderful creature, but also respecting every small and weak creature as the integral part in the cosmos where we live. It becomes important to reach social justice and humanity [5].

Father YB Mangunwijaya stated in his book, *Menumbuhkan Sikap Religius Anak-anak* that Indonesians are talented about religion, because Indonesians have the character of collectivistic; in Javanese it is called *anut grubug*. Meanwhile, religiosity is more difficult because it needs reflection toward personal way of life. Becoming religious person is not easy, it needs great effort for Indonesians [6].

This paper discusses about the children and religiosity concerning the way children sees religiosity, interfaith communication to grow the religiosity among the children and its application. There is also an example of how to conduct the subject 'Interfaith Communication' in class and how the process of what being discussed in the subject affects to children's attitude.

2. Method

Research design

This paper is a review of YB Mangunwijaya who did the experiment about Interfaith Communication in 1994 until 1999 at SD Kanisius Eksperimental Mangunan. After he died on February 10th 1999, the practice of Interfaith Communication is continued by the teachers of the school.

The methods of the study are:

1. Reviewing the thought of Mangunwijaya in comparison to Montessori's idea about cosmic education.
2. Interviewing teachers at SD Kanisius Eksperimental Mangunan about Interfaith Communication as a subject in the class.
3. Interviewing teachers at SD Kanisius Eksperimental Mangunan about the student's concrete action of 'Interfaith Communication'.

Population and Samples

The writers had several interviews with some teachers from different grades at SD Kanisius Mangunan. They are teachers of grade 1, grade 3, and grade 6. Grade 1 represents the lowest grade in elementary school, grade 3

represents the middle grade in elementary school, and grade 6 represents the highest grade in elementary school.

In this paper, the writers chose one example of the Interfaith Communication, started from the class subject and how it affected children's attitude. The sample is an experience in grade 3, which happened in the first semester (about August to November 2016).

Data Gathering and Analysis

The data gathered in this research were from interview to teachers and the reflection of students.

The researchers used descriptive qualitative method to get interview data [7]. The writers had in depth interviews to three teachers of SD Kanisius Eksperimental Mangunan. The questions are "How the subject 'Interfaith Communication' was conducted in the class?"; "What topics of religiosity that mostly discussed in the class?"; "How the topic discussed in the class at 'Interfaith Communication' time affects children's attitude?"

The analysis of the interview results is using narrative analysis. It is done in order to prevent of losing details of the story from the interviewees [7].

3. Results

Description of the school

Before talking about the result, the writers would like to explain briefly about the school, so that it will be easier to understand the context of this study.

SD Kanisius Eksperimental Mangunan is a formal elementary school located in Solo Street km. 11.5, Mangunan village, Berbah district, Sleman Regency, Yogyakarta Special Province. This school is a formal school with various diversity; religion, ethnics, economic and social background, and also disable children. The religions of students are Christian, Catholic, and Islam. Most of them are Catholics. There are students from poor families, but some of them come from rich families. Majorities are Javanese, but there are also students from other ethnic groups such as Dayak, Bataknese, Minangkabau, Tionghoa, etc. This school also has some special needs students. There are students with autism, students with dyslexia, slow learners, handicapped, and students with special treatment in behavior. All students do the same activities whether it is in the classroom or outside. Sometimes teacher creates some special target or activities for the special needs, but basically

children are treated the same. They are children who have the same right at school.

The curriculum of this school is basically the National Curriculum, plus several special subjects. The special subjects are Interfaith Communication (Komunikasi Iman), Box of Questions (Kotak Pertanyaan), Reading Good Books (Membaca Buku Bagus), Table Magazine (Majalah Meja), and Music of Education (Musik Pendidikan). These special subjects are created to help students become more explorative, creative, and integral which are the visions of SD Kanisius Eksperimental Mangunan.

Result of the Interview

1. Grade 1

In grade 1, the topic that mostly discusses in class is about love and respect. It is a class of 23 students with one home teacher. There is a child with dyslexia, a student with indigo, a student with autism, and two students with behavioral problems. The different conditions of the children become a great barrier for the teacher in the beginning of the class. It is very hard for teacher to manage the class. After lots of dialogue with students in the topics of love and respect, there is a great attitude change among the students.

One good example is related to social studies. One day, children were learning about healthy house. They planned to visit a friend's house near the school. Before visiting the house, teacher had discussion with the students about what would they do and how should they behave in that house (we call it classroom's agreement).

At the time of visiting the house, seemed that most children forgot their agreement about what should they do and behave during the visitation. Children didn't ask permission, they even directly went into the house, entered the bedroom, dining room, kitchen, garage, etc without asking the owner's permission. Some students tried to sit on the motorbike in the garage; the other turned on the TV, and jumped on the sofa.

The next day, teacher conducted Interfaith Communication with the topic 'respect'. Teacher asked children to tell their experiences of visiting their friend's house. What were they doing, how they behaved. By the help of the teacher in focusing to 'respect', children came to the awareness that they had acted improperly in their friend's house. It did not show that they respect to their friend's family. Then, teacher brought children to a dialogue again, what should they do for their improper behavior. Students wanted to go there once again, behave properly, respect to

the family, and asked for apologize for their improper behavior.

In the day after, they did the plan, going to their friend's house one more time. There, they change the attitude. They could act properly and respect the family.

2. Grade 3

In grade 3, there are 22 students with one home teacher. The topics for Interfaith Communication are mostly about care and responsibility.

There is one special need student in that class. He has to move on a wheel chair because he has problem with his legs. In the beginning of the class, his friends were not really care to him. One day, he didn't attend the class. After that day, he did not attend the class for almost one month.

The teacher tried to find the reason of his being absent for about a month. On the first time visiting him, the teacher did not get the reason.

The teacher then brought his findings into the class and discussed it with the other children. The teacher told children that 'this boy' didn't want to study again. His friends wrote letters for 'the boy', asked him to come to school again, wrote that they miss him to be together again.

Finally, in the next discussion with the boy's parents, it was found that 'this boy' feels lonely when the class having outdoor activities. He could not move as easily as the other children because he was on a wheelchair. At that time, his friend left him behind.

The next meeting in class, the teacher told children about the reason why 'the boy' did not want to go to school anymore. Children then had a dialog about 'the boy'. They expressed their feeling about him. One admitted that he did not help 'the boy'. The other said that he has made 'the boy' fell down once, etc.

Teacher then brought the class into a discussion focusing on 'responsibility'. Teacher asked students whether they love 'the boy' or not; did they like to have 'the boy' as a friend. How they should show their responsibility as friends when having a handicapped friend. Most children said that they have to help 'the boy'. Then, they wrote letter again, promised to be good friends for 'the boy'.

Finally, 'the boy' came to school again. They happily greeted 'the boy'. The class situation was changing. Students became more open. 'The boy's friends became more honest to him about their feeling on his attitude. They told him that he needs to control his emotion and to say thank you any kind of help done by other friends, etc. The other children then change their

way in treating 'the boy'. They become more helpful to 'the boy'. The one who did not want to help 'the boy' to move the wheelchair, then was willing to do it. The other helped to take books and other things for 'the boy', etc. 'The boy' also becomes friendlier and appreciate his friends' help by saying thank you. 'The boy' is getting happier to go to school and never want to be absent again.

3. Grade 6

In grade 6, there are 24 students with one home teacher. There are two slow learners in this class. The topics of Interfaith Communication are responsibility, struggle, persistence, care, helpful, serenity.

For the final project of Interfaith Communication in Elementary School, children had to make a concrete action to help people around Mangunan village, the village where the school is located.

The teacher told them to discuss it in class. They, they made a plan to do charity project toward the sick people in Mangunan village. The class was divided into four groups because from their investigation, there were four people who got seriously ill and they might need lots of money for medicines. They had discussion in group and come to conclusion that they needed to earn money to help the people.

They did not ask money from their parents, teachers or other people for this project. They set aside some of their pocket money for the capital. They planned to sell something to make money. One group bought doughnuts in the market and sold it at school, one group made juice, one group made *camcao* drink (a kind of drink made from *camcao* leaves), and the other group made stickers and sold them at school.

During the process of earning the money, two of the people that they planned to help were dead. They felt sad, but they kept in struggle, earn money for the other two persons. From the beginning of the project until this paper was made, this project has not finished yet. The children are still earning and collecting money for their charity project.

4. Discussion: Interfaith Communication as A Subject and Practical Life At School

From the interview result, it is found that all grades, whether it is lower grade, middle grade, and highest grade can do the process of Interfaith Communication. Children learn religiosity by the help of the teacher. The teacher here only plays a role as a facilitator. It is clear from the interview that children themselves who then discussed,

reflected, and finally made a concrete action toward their experiences. Lowest grade made a more simple action, while highest grade can do a bigger project as a concrete action toward their experience.

In comparison to Montessori, it is stated that "the elementary age is the ideal time in life to have a child develop the mindset and context for asking the 'who am I?' question." [8]. It means that teachers' role in elementary classes becomes very important.

Children need good model, which is from the teacher, to be the "compass" of their attitude [8]. What they got in the process of learning in the classroom will be their guidance when facing situation in their daily life. It is clear from the result above, children from higher level are more care and can see bigger problem, not only in the school, but also in wider context, that is the village where they study.

Once a week, children in SD Kanisius Eksperimental Mangunan have the subject Interfaith Communication. It is about life and how they should have good relationship with themselves, others, nature, equipments, and God. In Indonesia they are called '5A' (Aku (Self), Anda (Others), Alam (Nature), Alat (Equipments), and Allah (God)). This made the subject Interfaith Communication differs from Character Education. The two subjects are related, but Interfaith Communication involved God in the process, God, The Creator of all beings. Character education talks about the horizontal relationship between individual, while Interfaith Communication also talks about vertical relationship, between individual and the Creator. An atheist can be religious. What Interfaith Communication would do is children having good character and good horizontal relationship (with themselves, other people, nature, and equipments); and then reflect and live the experience as an offering to God [5].

As a subject, the goal of Interfaith Communication is to help children to grow their religiosity, which means to have good basic characters, conscience toward the good, fair, true, to be helpful, and to be happy. Besides, children also should have character of refusing the bad, mocking friends, unfair, etc.

From the interview result, the three classes experience the horizontal relationship. In grade 1, the students experience the relation between themselves, the other (the family of their friends), equipment (house that should be in well condition so that the people who are living there will be healthy). In grade 3, the students experience the horizontal relationship between themselves, other person (the boy, their

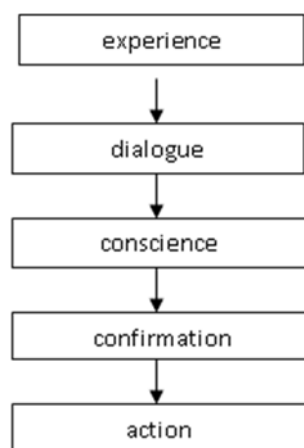
handicapped friend), nature ('the boy' was born handicapped), equipment (the wheelchair of 'the boy'). In grade 6, the students experience the horizontal relationship between themselves, the others (communication with friends in group, the people that they are going to help, the people or friends who buy their products), nature (making food or drink with ingredients from the nature such as water, fruits, *camcao* leaves, etc.), equipments (money, tools for making the food and drinks).

It is clearly seen that all students do are nature, it is about everyday life, something they really experience in daily life. And everything they experience used to be offered to God. They used to talk to God in a writing, a poem, a picture, making diary, and pray. The prayer is also special. Children in SD Kanisius Eksperimental Mangunan say a prayer by singing songs. The songs were chosen from songs or Psalm which speaks about the vertical relationship (relation to God).

Teachers always prepare the materials for each week based on the real problems or situation that children face on the recent days. Teacher chooses one topic related to the problem or situation. The problem or situation can be taken from their own experience, from the story of a friend, from the newspaper, or from a question of a child related to the 5A (Aku (Self), Anda (Others), Alam (Nature), Alat (Equipments), and Allah (God)).

The possible topics are love, honesty, responsibility, simplicity, respect, living the life, empathy, care, hope, serenity, etc. Teacher will help students to relate the topics with the '5A' (Aku (Self), Anda (Others), Alam (Nature), Alat (Equipments), and Allah (God)).

There are five steps in learning process of Interfaith Communication as a subject:



First step: dialog about an experience from one or some children. It can also be dialog about certain situation around the children.

Second step: dialogue and respond from other children. They may express their feelings or comment on the experience or situation.

Third step: teacher guides the students to focus on certain consciences; e.g. love, hope, faith, etc to be discussed.

Forth step: dialogue about the consciences and students get confirmation from the teacher.

Fifth step: make 'intention' or a concrete action, whether it is big action or very small action [5]. pp.154

From the description of the five steps, it is clear that the teacher asks students to make reflection about what they experience in their daily life.

The important thing to remember is that Interfaith Communication is basically not a subject matter but good practices, examples from people surroundings. At school, teachers are students' role model. Therefore, teachers have very big responsibility to grow children's religiosity.

Children will learn firstly by copying what others do, especially what the grownups around them do. Copying what grownups do is the way children learn to face the world, to solve problems, to understand the '5A's' (Aku (Self), Anda (Others), Alam (Nature), Alat (Equipments), and Allah (God)), to be religious.

From the interview results, the three teachers conducted the five steps to help children to have deep reflection towards the experience.

In Grade 1, the experience is about improper behavior when visiting their friend's house. Then teacher brought the situation into the class' dialogue. Everybody had a chance to express their feelings about their attitude. Teacher helped them to focus on the related conscience that is respect to the others. Teachers confirmed the things right to do, that is to respect the others in certain ways. Then they together made a plan of concrete actions to visit their friend's house once again and asked for apologize for their improper attitude.

In Grade 3, the situation is they went through was about a handicapped boy who were absent for about a month. The teacher tried to gain information about the reason and finally found that the reasons involved his friends' attitude towards him. The teacher brought it into the class dialogue; they express their feelings about the boy. Then the teachers focused the dialogue to one of consciences which is responsibility. They had another dialogue to confirm about what they should do in relation with their responsibility for having a handicapped friend. They made letters for the boy and finally he come back to school and feels

happier to be at school. The other children experience the attitude changing (into the good one).

In Grade 6, the class found that there are four people around Mangunan School who need a help. The 4 people are having serious illness and they brought it into the class dialogue. They decided to bring the situation for their final exam project for Interfaith Communication in group of six. The teacher focused the dialogue into two consciences, care and struggle. They discussed about the way to help the four people by earning money through making and selling food and drink. The teacher confirmed the plan and began to work on the plan.

5. Conclusion

From the result of the interviews, we can draw conclusion that the children see religion in different ways from some adults do. They never think about the difference, they only know about how to treat other friends based on the teacher model or guidance through the process in the class.

Interfaith communication really helps to grow the children's religiosity. They learn to use their conscience in their relation towards themselves, the others, nature, equipments and God in their practical life. When the children have a deep conscience within their heart and soul, it is easier for them to respect and have tolerance to other people and their religion. Being religious is beyond all religions in this universe. No one at school brings religion when they have conflict with others.

The characters of children should be managed from the early age with the help of people surround them, in this case, the teachers. Hopefully, the world will be better when more people are religious. Being religious should be carried on from the early age. One of the practical ways to carry it on at school is through the Interfaith Communication as a subject and also practical life.

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DESIGNING EMANCIPATORY LEARNING TO RESPONSE TO THE CHALLENGE OF THE 21ST CENTURY LIFE

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Abstract

Pope Francis in his encyclic of *Laudato Si* warning us about the broken earth. The pope concern about the current condition of mother earth because of human destructive and capitalism activity. In the last chapter of *Laudato Si*, he put a new hope of life by education and spiritual ecology. According to that issue, it is important to design a learning approach that empowering students to design their lesson plan that contain independent learning based on their interest and social background. The research method was action research that applied in the Innovative Learning Natural Science Subject. The lesson approach is called emancipatory education that means an approach that humanizing, involving critical awareness, and questioning the system. In this courses, the students was facilitated to develop their efforts in making use of the natural sciences concepts and laws in daily life. The learning process was designed based on emancipatory approach. Students were studied about *Laudato Si*, document about environmental crisis, movies, and also journal and resume it into an article independently. Then, they designed an instrument to interview the activist of environmental conservation. The instrument was made based on 6 point in the *Laudato Si*. The humanizing showed in their way to chose subject of interview, how they delivered the question, how they worked in peer group, and also how they design the lesson plan that based on students background and context. In that interview, the students showed their critical awareness that implicit in their question. After they resumed the result of interview, they applied it into their lesson plan to teach natural science in elementary school.

Keywords: emancipatory, natural science, *Laudato Si*

1. Introduction

Laudato Si is divided into six chapter consisting (1) the thought about the condition of the current mother earth; (2) the Bible related with God's creation; (3) the human root of the ecological crisis; (4) an integral ecology; (5) the rules of policy, approach and real action; and (6) education and spiritual ecology.

In the thought about the current condition of the mother earth, it is described that our mother earth is apparently broken because of the climate change, water problem, the decrease of the biodiversity, the decrease of the quality life and social deteriorated, and global imbalances. This discussion is closed with the fact that we have given weak response towards these social problems. The either the national or the international politics move towards the global technology and finance. In this situation, a critical response is highly needed.

Based on PGSD curriculum, the teaching of Learning Natural Sciences is that by the end of the course, the students are able to (1) observe the natural phenomena, either directly or indirectly; (2) make use of the natural sciences concepts and laws in daily life; (3) understand the structure of natural sciences, including functional

relationship among concepts related with natural sciences. In addition to involving the conceptual understanding, this course also includes laboratories practice. This activity is meant to support and develop the students' ability to observe.

For the students who are interested in developing innovative learning natural sciences, PGSD offers two other courses, namely Innovative Learning Natural Sciences 1 and Innovative Learning Natural Sciences 2. In these courses, the students are facilitated to develop their efforts in making use of the natural sciences concepts and laws in daily life. Students as the will-be elementary school teachers are encouraged to develop their own experiments and modifying a simple laboratories equipment, and to develop their learning activities based on a particular theme.

It is important to note that most of the students in PGSD do not have sufficient background in natural sciences. Most of them have social sciences as their background knowledge. Some of them even attended vocational school when they were in their high school. Most of them have the difficulties to understand the natural sciences concepts and laws. There was a time that the students obtained

45.55 of 100 when they did the test containing the basic biology for elementary students.

2. Method

This action research begun with designed the Inovative Learning Natural Science Subject's lesson plan and rundown. The researcher chose project based learning as the method and mix it with emancipatory approach.

There were 35 students that took this subject. They were devided into 5 groups to did the project. The theme of the project was Laudato Si. the rundown of the subject were devided into 8 steps:

- a. Literacy studies
- b. Observation to environmental studies center
- c. Design interview instrument based on 6 point of Laudato Si.
- d. Interview the activist of environmental conservation
- e. Analysis the data by coding and wrote description
- f. Design elementary natural science lesson plan with environmental topic
- g. Implemented the lesson plan in elementary school
- h. Evaluated and reflected all the process

Researcher collect all the students' portofolio, studied it, observed them in every step, and built a conclusion.

The point that had been observed in the students' process based on 3 core of emansipatory approach: humanizing, involving critical awareness, and questioning the system.

3. Results and Discussion

In the first meeting of Innovative Natural Science Subject, 35 students was asked to observed a short movie that showed them the condition of 70 years later, when all the trees gone and the water is created synthetically in factory. After that, the students discuss about broken environmental based on their real experience. The critical awarness showed in some students question in the discussion. "*What will happened if all the water is taken by corporation?*" (P-Q1). They also questioning the system "*in my experience, in my home town, the government agree to let hundreds of developer to build hotels in the same city, how can it be?*" (A-Q2).

Students collected literacy to help them understand the context of broken earth. The first book that highly recommended to read was the encyclic Laudato Si by Pope Francis. Some of

them read novels, articles from newspaper and short movie from Youtube. That was struggling to them to resume all literacy that they had beed collected. They did not understand the difference between resume some articles and made synopsis. They needed a week more to reviewed and revised their resume.

Identifying that the students were not well trained in handling an interview, the researcher encouraged the students to propose what to do to gather these information. Two aspects were involved in assessing this ability. One was the ability to gather the information, including the ability to develop the interview and two was the richness of the data they gained. The assumption of the richness of the data was based on the idea of qualitative data that the richness of the data is based on the ability to develop the question for interview (Kvale & Brinkmann, 2009).

The instrument for intevieew had been done in the fourth week. They developed the question based on 6 point of Laudato Si.

The students came to Environmental Studies Center of Sanata Dharma Univeristy to interviewed some conservation activists there. The result of 5 subject of interview, they had the similar point of view about human as the center of environmental crisis. But, they devided into 2 point of view about ecological crisis. One group belived that the environmental crisis was becaused human exploitation and activity. The other group believed that nature had ability to adapted with what had been done in the surface.

By that information, students did reflection and evaluation. The result of that activity was used as the core of natural science lesson plan that they arranged. The lesson plan was developed by Tomlinson model and emancipatory approach. The model had 16 criteria that showed in the implementation. Beside that, the emancipatory approach had 3 criteria. Meanwhile, the principles of learning materials development in language teaching from Tomlinson (1998) that can be adopted into this study is that materials should achieve impact, help the learners to feel at ease, help the learners to develop confidence, be relevant and useful, require and facilitate the learners' self-investment, not rely too much on controlled practices, and provide opportunities for outcome feedback. The materials that had been developed then was implemented in the classroom setting. The process and the results of the implementation of the materials were studied using qualitative phenomenological approach.

4. Conclusion

The emancipatory approach encourage students to be more independent to dig information from the expert and phenomenon source. That because the emancipatory approach let them learn by their own experience and background (humanis), express their opinions and feelings (critical), and aware to the system of social life (questioning the system).

Their product (lesson plan of natural science for elementary school) was implemented as an answer of the lack of conservation education for young learners.

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A REFLECTION TOWARDS LEARNING PROCESS: MISCONCEPTION IN ENVIRONMENT TOPICS IN MIDDLE SCHOOL STUDENT

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Abstract

The purpose of this study was to analysis of students' misconception. There are many students in science education that report students have alternative conceptions and these alternative affect students' learning and understanding. Final examination was used to indicate background students' misconception in middle school. Therefore, it means that we are required to analysis of students' misconception based on learning process conducted by a teacher. This research aims to assess analyse of final examination result based on learning process in Magelang. This assesment will be easy very useful in giving an information about implementation concerning with learning process and the final examination results obtained by students in environmental material. A qualitative analysis was used to assess the obtained data. The sample of this assessment consisted of science teachers and students in SMP Muhammadiyah Magelang, one of most development school in Magelang. A classroom – based observation though in depth interview about learning process, and misconception test result have been conducted at SMP Muhammadiyah Magelang. This research used Miles and Huberman framework for qualitative data analysis. Analysis has three main components, data reduction, data display, and verifying conclusions. The results showed that science teachers had concept understanding about environmental material, but the root of the cause of why students had misconception in environmental material it's because of learning process in classroom was not effective to explore potential of students' knowledge. Most of students understand however which is understood is a wrong concept, or misconception. Students had misconception due to the lack of proper methods of teachers in teaching environmental material.

Keyword: misconception, learning process.

1. Introduction

Quality of learning in school showed from process and learning outcomes in the school [1]. One of the characteristics curriculum of 2013 is an assessment that emphasizes the process and learning outcomes in an effort to measure the mastery or achievement of a competence that has been learned. A national final evaluation of learning conducted by the National Education Standards Agency (BSNP) based on government appointment is an activity of measuring and assessing the competence of learners at middle school [2].

The level of achievement of students' cognitive abilities can be known from each end of the educational program carried out the assessment activities on a national scale known as the Final Examination.

The assessment held because students can know how far students managed to follow the lessons given by teachers [3]. Score final examination has been students result, become

one of parameter achievement to learning outcomes. Final examination is a test given to students at the end of a course of study. Final exam also activity to measuring graduates competency achievement in certain subjects nationally with reference to graduate competency standards (SKL). Stakes attached to the test lead to positive impacts and negative impacts on the teaching and learning process [4].

Final examination result year 2015/2016 in Central Java province is ranked 21 out of 34 provinces in Indonesia for science subjects is 53.73. Based on the city in Central Java, the highest result of science subjects is Magelang city with an average value of 65.79. Achievement score at middle school students in the city of Magelang on science subjects, the highest value is 88.33 and the lowest value is 33.96.

Several studies have shown that there are several factors that influence the students before facing the final examination namely the learning process of teachers [5], students' self-confidence

[6], student attitudes and skills [7] and student knowledge [8][9]

There are many students in science education that report students have alternative conceptions and these alternative affect students' learning and understanding [10]. Weakness in concept understanding is one of the factors that support the lack of achievement level of learning. The occurrence of the weakness of understanding the sustainable concept would make it difficult for students to receive advanced materials at higher levels of education.

The concept in the material is channeled to the students through a learning process [11]. The science-learning process emphasizes the provision of hands-on experience to develop competencies to explore and understand the natural world scientifically. Science education aimed to inquiry and skill process so that it can help learners to gain a deeper understanding of the natural surroundings [12].

Difficulties in studying environmental materials which is one of the competencies tested in the final examination are 1) the students have a simple understanding so difficult to understand if students do not see directly, 2) students difficulty in identifying and analyzing the problems given about the environment, 3) students trouble the changes that happen to the environmental material in the long term.

This is not separated from the supporting factors in the learning process are creativity of teachers, with various models, methods, strategies, media, learning resources and approaches in process learning [13].

This research is generally aimed to reveal the analysis of the absorption power of the national exam result of the students on the environmental material in SMP Muhammadiyah Magelang from the above description, the absorption or the students' understanding can be influenced by various factors.

2. Method

The study was conducted on science subjects and VII students in SMP Muhammadiyah Magelang. Data were collected using interviews to IPA teachers, conceptualized conception tests in the form of multiple-choice to teachers and students as well as student skill observation. The collected data is then analyzed using qualitative analysis using Miles and Huberman analysis. As the analytical framework of Miles and Huberman[14], there are three components: data reduction, data display and verifying conclusion

3. Results

This study was finding data collection to reduction the process of selecting, focusing, simplifying, abstracting, and transforming the 'raw' data that appear in written-up field notes. Data reduction occurs continuously throughout the life of any qualitatively oriented project. As a next step, misconceptions were identified by misconception test. First of all, semi-structured interviews with science teachers were conducted in order to determine whether there are learning process and any misconceptions that do not appear in literature. In this study, data reduction used to selecting middle school in Magelang and focus observation though in depth interview about learning process, and misconception test. SMP Muhammadiyah Magelang is one of the schools that developed as a leading school with full day school and boarding school system. Score of final exam on science education 2015/2016 in these middle school is 51,61.

The value of his achievement is below the national value of 56.27. The percentage of final exam absorption in science subjects of SMP Muhammadiyah can be seen in Table 1. In relation to the above, it is necessary to do coaching activities that the achievement of final examination score increases. For that, the first step is to identify difficult materials on science subjects for students in SMP Muhammadiyah Magelang.

Table 1. Percentage of Science' Concept Understanding Final Examination of SMP / MTs

The capabilities	School	City
The structure and function of living things	33,67	51,23
Mechanics and solar system	50,36	62,89
Living creatures and environment	55,43	72,74
Electrical and magnetic wave	55,51	65,67
Measurements, substances and nature	70,36	82,78

Source: Final Examination Result Report by the Education Center, Research and Development Agency of the Ministry of National Education.

In a general way, the less present competency in students of concept and precisely the key digital competency to perform professional acts with noticeable results in the world of education. That is to say, the know how to use and integrate appropriately the information and communication technologies in the teaching learning activities.

Environmental material is one of the subjects in science class VII. The material is a material that is often used as a matter of Final Examination SMP / MTs with various variations therein. Quality of education in Indonesia can be seen through the evaluation of educational process that has lasted. The evaluation was done to see how big achievements that have been achieved by learners. Based on data from the Research and Development Agency of the Ministry of National Education shows that the percentage of students absorption in SMP Muhammadiyah Magelang about the ability to solve problems related to the environment is still low, both at the district, provincial level. The data are listed in Table 2.

Table 2. Percentage Final Examination SMP / MTs Environmental Material

The Capabilities	School	City
Presented in the case of pollution, students can analyze the impact.	57,14	75,94
Describes the relationship between density of human population with environmental	58,57	65,79

Question 1: develop a learning process to use in class for enhance science learning

Table 3. Science teachers' description on the learning process in class room

Nodes	Science Teachers' ideas
True descriptions	A process in which there is an interaction activity between teacher-student and reciprocal communication that takes place in an educational situation to achieve the learning objectives (A1) The process of teaching and learning activities as well play a role in determining the success of student learning (A2)

Question 2: aware of the learning model, what kind of references did you benefit from?

Table 4. science teachers' source of information about learning model

Nodes	Free Nodes	Science Teachers' ideas
Awareness a ways	Bachelor degree	I learnt at the university (A1) The first time in my bachelor degree (A2)
	Seminary	I became aware of the learning model at the seminaries (A1)
	Guide book	Besides, we can see it guide books (A1 and A2)
	Internet	I became aware of the learning model at the internet (A1)

quality from the observation / case

Source: Final Examination Result Report by the Education Center, Research and Development Agency of the Ministry of National Education.

Environmental materials require contextual aspects of learning, since the scope of environmental issues is closely related to daily life that involves not only knowledge, but also concerning attitudes and skills to address and solve existing environmental problems[15]. Weakness in understanding a concept, is one of the factors that support the lack of absorption so low level of learning achievement. The occurrence of low absorbcency and weakness of understanding of the concept of sustainable, would make it difficult for students to receive advanced materials at higher levels of education because it will make misconceptions. Factors that cause low absorption of students are factors of the school include teaching methods, learning methods, relationships between students and learning facilities. Ideally, these weaknesses are identified as the first step in determining academic policy, so that the learning objectives can be achieved optimally. The practice of studying arithmetic concepts in isolation not only prolongs the debate on how to define conceptual knowledge but actually may run counter to currently accepted definitions of conceptual knowledge [16].

Finding of the semi-structure interviews are shown at tables 1-5 below with science teachers (A1 and A2). As showed in table.

Question 3: what do you think about to take concept understanding?

Table 5. Science teachers' description to take concept understanding

Nodes	Free nodes	Science Teachers' ideas
Description of :	Misunderstanding	The condition that students really do not understand a concept, not even memorize or know it (A1)
	Misconception	The incidence of errors in translating and applying the concept (A1)
Students' concept	Learning process	Inconsistent conceptual knowledge, or different from the scientist's agreement (A2)

Question 4: in your opinion, are the activities (based learning model, media and evaluation) in the class and students' concept?

Table 6. Science teachers' ideas about the activities in the class and students' concept

Nodes	Free nodes	Science Teachers' ideas
Activities	Learning model	With the learning process and the right learning model, the misconception will decrease (A1) Students centered activities which give chance to students make concept (A2)
	Evaluation	Using appropriate judgment will identify misconceptions that occur in students (A2) In our times, student need to have some media to support that students solve problems to enhance the concept (A2)
	Media	In our times, student need to have some media to support that students solve problems to enhance the concept (A2)

Question 5: can you prepare the suitable learning and applying environment to improve your students' concept?

Table 7. Science teachers' ideas about the suitable learning and applying environment to improve your students' concept

Nodes	Free nodes	Science Teachers' ideas
No	Not suitable	I cannot provide suitable environments because school' source are limited and I have overcrowded class (A2)
Yes	Suitable	I can. But what I can do is limited with school' sources so I wants to provide suitable environments with learning media, model to enhance environmental material.

A classroom – based observation though in depth interview about learning process with science teachers (A1 and A2). The results of interview analysis with teachers and observations on students of SMP Muhammadiyah Magelang using qualitative methods referred by Miles and Huberman framework. Interviews were conducted to obtain data on factors causing low absorption of students, observations made to know the mastery of the material by teachers and students, and documentation on the results of the value of the final examination and the student's daily test [17]. It is known that teaching methods used in the classroom are quite varied, are lectures, lab and demonstrations, students tend to be passionate when practicum, but the concept of matter cannot be formed when practicum.

Materials used amplifier through lecture method, quiz and practice questions.

In the learning process, students tend to be active in learning activities, especially when there are practical in the laboratory, but the method is only as a confirmation rather than discovery [18]. This can be seen from the observation, the students are skilled in using the tool and doing the measurement, reading the graph but it is difficult to make hypothesis and conclusion. Students are more enthusiastic when knowing that the material to be studied is close to everyday life. However, students feel not motivated to learn on the material that is memorize, so that when held the assessment of students very difficult in answering because glued to the material that must be memorized.

Everyone can learn from seeing, listening, touching, moving or doing. Therefore, organizing the learning stimulation or activities in various formats; then stimulating the senses of learning and posing questions to arouse the brain to think is one of the inquiry teaching processes.

From the result of identification test of misconception of teacher and student in SMP Muhamadiyah Magelang, it was found that mastering of material by teacher in global warming material included in good category with understanding criterion, seen from 5 question which is obtained is average 90,5. This result is reversed with the students (Table 8) from 10

students on the same question, the students included in the criteria of misconception.

Students consisted of 10 questions and their follow-up probes, these questions were adapted from the literature about environmental material, concepts in science. The concept test is developed based on indicators developed from basic competencies along with consideration of the need for concepts that are contextual and necessary to stimulate student skills. Further search through interviews revealed that teachers prefer conceptual concepts due to basic competence demands (KD). Master assumes that the concepts are hard to master. So the teacher considers too heavy if added other concepts.

Table 8. Data of students' misconceptions

No	Concept	Percentage	Interpretation
1	Apply human role in environmental management to overcome environmental problems	70% 30%	Misconception Understanding
2	Students are able to mention the impact of global warming on the environment and ecosystem	50% 50%	Misconception Understanding
3	Students are able to mention human efforts in overcoming global warming	40% 60%	Misconception Understanding
4	Students can explain the meaning of greenhouse effect	70% 30%	Misconception Understanding
5	Students can explain the process of global warming	90% 10%	Misconception Understanding

The findings of student misconception in Fariyani's research [19] showed that students experienced misconceptions of 37.25% in choosing answers, 45.10% in choosing reasons, and 62.75% in choosing both. This means students tend not to distinguish what students understand and what students do not understand correctly.

4. Discussion

This study aims to analyze misconceptions in SMP Muhamadiyah Magelang based on students' understanding of the concept of learning process conducted by teachers. Understanding the concept that is formed in students comes from the learning process applied in the classroom. In the learning process there are several learning components that are interrelated between one another: 1) teachers, 2) students, 3) learning materials, 4) learning methods, 5) instructional media, 6) evaluation of learning [20]. The learning process at SMP Muhammadiyah Magelang is categorized quite well by the variation of strategy and learning method. The process of learning plays an

important role in understanding students' concepts [21].

Table 3 it is stated that the teacher has understood the learning process. It is supported by table 4 that teachers have provided themselves with the following sources of learning models for use in the classroom.

According to [22], in achieving the objectives of science subjects requires a student-oriented approach that seeks learning by applying methods and models that refer to student activity. To help students understand the various concepts taught in schools by finding them themselves need to distinguish "learning concepts" and "learning process skills". Seen in table 5 it is known that the teacher has understood about misconception. This can make teachers able to manage student acquisition. Teachers will also involve the environment for cognitive or intellectual, manual, and social skills, so that the students' learning experience is more meaningful and can reduce students' misconceptions on environmental material as can be seen from table 7.

The low level of student concept comprehension test (Table 8), disclosed that

students experience misconception, whereas in teachers do not experience misconception. This categorization was made as indicated by Pesman and Eryilmaz [23]. Based on this categorization students' responses can be analyzed into different level of understanding and pattern that a student's response can give an idea whether that the student responded to the first tier consciously since the second tier sought for its reason. If a student answered incorrectly for the first and second tiers and finally sure, it could be determined the student has misconception on that particular concept. Some students expressed difficulties in the analysis of the first problem in the matter of the story form involving problems in it. Students have not been able to understand well about the discourse outside the student environment. Students also have not been able to analyze the problem well so that it is not able to finish it correctly. Students feel confused when they have to solve problems that involve more than one problem. It can be concluded that the delivery of learning by teachers there is a mistake in a case. In interviews that have been done can be concluded that the learning process undertaken by teachers in SMP Muhammadiyah Magleng not exactly used to build understanding of student concepts. The results of interviews and observations more deeply in table 6, researchers can analyze that the components of the learning process undertaken by teachers have not fully explore the concept of understanding.

According to De Smet [21] and Ifinedo [24] there is a positive correlation between students' cognitive and learning processes and students feel more happy and have an opportunity to be actively involved in learning. Learning is a teaching and learning activity in terms of student activity activities in the form of student learning experience of student activities planned for teachers experienced by students during teaching and learning activities. This cannot be denied because before getting the learning, students have a basic mastery of the context gained through experience, both from school and from outside school. Nitjarunkul [25] states that knowledge consists of constructions of the past where the knowledge we have possessed is built using the cognitive structure, and the structure evolves on a continuous basis. But if the concept has been owned by students is different from existing concepts or from experts, then there needs to be alignment by the teacher through appropriate learning process.

5. Conclusion

This study used analysis qualitative researches from Miles and Huberman. Analysis divided into 3 components: 1) data reduction, 2) data display and 3) verifying conclusions. Data reduction used to select middle school and focus to topic observation and simplifying data. The outcomes of this research can inform science teachers used learning process observation and interview. For this purpose, student's misconceptions about environment were determined using the misconception test.

According to the results from interview the use of science teachers' understanding at schools about learning process and students' misconceptions. In addition, teachers need to give more effort to try to improve more practice in applying learning process in classroom to enhance students' concept. Misconceptions experienced by students on environmental material occurred in SMP Muhammadiyah Magelang. So there needs to be an alignment by the teacher through proper learning process. The results showed that science teachers had concept understanding about environmental material, but the root of the cause of why students had misconception in environmental material it's because of learning process in classroom was not effective to explore potential of students' knowledge. Most of students understand however which is understood is a wrong concept, or misconception. Students had misconception due to the lack of proper methods of teachers in teaching environmental material.

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REVITALIZATION OF EDUCATION PURPOSES IN SENIOR HIGH SCHOOL: A CASE STUDY IN INDONESIA

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Abstract

The aim of this study was to examine the implementation of learning in Indonesia in elaborating national education goals especially for senior high school students in learning. The method used in this analysis was the study of document or literature study with a qualitative approach. Aspects which became the object of analysis were the basis of learning objectives and competencies that include attitudes, knowledge and skills related to matter or subjects and syllabus of learning and its components. The research data derived from the literature about the objectives of learning, implementation of learning in senior high school especially for biology class x and circumstances that occurred in learning. The steps in analyzing the data including literature study on national education goals and its elaboration to the implementation of teaching in school especially senior high school, identify the suitability of learning with learning objectives and competence, compared the implementation of learning objectives in Indonesia with other countries and according to the expert. The results of the study showed that learning objective that explained in syllabus for biology class x has been consistent with the objectives of curriculum and national education, but in practice needs to pay attention to the achievement of competencies that must be mastered students and teachers. Suggests that education process need to reduce the load of subjects matter at each level of education, reduction the lesson adjusted to the stage of development of learners, and the educational evaluation system that does not emphasize the assessment on a certain quantity.

Keywords: Revitalization, Education Purposes, Implementation of learning, Senior High School In Indonesia

1. Introduction

Education is the main thing that will sustain the progress of a nation because the progress of a nation can be measured from the quality and the education system. Improving the quality of education in Indonesia continues to be pursued in order to meet the national education objectives as described in the 1945 Law on the national education objective No. 20, Year 2003 part 3 explains that the function of National education to develop the ability and form the character and civilization of a dignified nation in order to educate the nation's life, aims to develop the potential of learners to become a human being who believes and pious to God, noble, healthy, knowledgeable, capable, creative, independent, And become a democratic and responsible citizen (Sisdiknas, 2003). With a formula of educational objectives, then the educational process will be easily assessed or measured success rate. The success of education will be easily and quickly can be seen from the aspect of achieving the goal. It also makes it easy to compile and define the materials, methods and tools or media used in the educational process.

Achieving the results of national education can be starting from the level of local education coverage, whether the implementation is wise and actually implemented in the field, or not really implemented properly, where quite clearly explained and documented, but its implementation is not appropriate. One form of thinking in the field of education has a very important meaning in the process of educating Indonesian nation and society is Panca Dharma conception formulated systematically by Ki Hajar Dewantara, a pioneer and leader of Taman Siswa Foundation. It is said to be important because of some conception of thought could occupy positions and important roles in the Ministry of Education and environment Culture (Solehan, 2010). Based on the point of view of the contents, the education initiated by Ki Hadjar Dewantara has criteria that explicitly contain six elements, namely: (1) educational freedom (independence), (2) the education of humanity (Humanism), (3) spiritual education (natural nature), (4) character education, (5) Social education and (6) leadership education (Tut Wuri Handayani) (Muthoifin, 2015). The concept is expected to be able to build students into human who believes and cautious to God, independent

inward, noble sense, intelligent and skilled, and physically and spiritually healthy to become a member of an independent society and responsible for the welfare of the nation, homeland, and humans in general. Despite the different sentence structure, but the educational objectives of Taman siswa is in line with national education objectives.

In effort to realize the goal of national education objectives is necessary means of the curriculum. Curriculum can be defined as a plan for achieving goals. The plan involves a sequence of steps. Curriculum is an organized set of formal education and training intentions. Jon Wiles and Joseph Bondi view curriculum as a development process that (1) identifies a philosophy; (2) assesses student ability; (3) considers possible methods of instruction; (4) implements strategies; (5) selects assessment devices; and (6) is continually adjusted (Ornstein & Hunkins, 2017). The curriculum is a set of plans and arrangements concerning objectives, content, and instructional materials as well as used as guidelines for the implementation of learning activities to achieve the goals of learning and education (Sisdiknas, 2003). Richards (2001) defines curriculum as something that includes the processes that are used to determine the needs of a group of learners, to develop aims or objectives for a program to address those needs, to determine appropriate syllabus, course structure, teaching methods, and teaching materials, and to carry out an evaluation (Muth'im, 2014). curriculum essentially contains three basic components, namely, (1) the educational aim of the program (as the ends), (2) the content, teaching procedures and learning experiences which will be needed to achieve this objective (as the means), and (3) some instruments for assessing whether the educational ends have been achieved or not (as the assessment) (Muth'im, 2014). The curriculum is constantly changing with the times and needs of education. Curriculum changes can be partial that is on a particular component, can also be whole that involves all components of the curriculum.

The course of national education curriculum since 1945 has changed, ie in 1947, 1952, 1964, 1968, 1975, 1984, 1994, 1999, 2004, 2006, then the most recent curriculum is 2013. The new curriculum aims to improve the quality of instruction in schools and providing the right support to help teachers and leaders to change their practice will be critical in achieving a lift in teaching quality and student outcomes. Although the curriculum is developed and disseminated centrally, teachers are trained, monitored and supported at the district level. This creates a

challenge in ensuring the national curriculum is well understood and used by teachers and that they also understand the extent to which they can adapt the curriculum to ensure it is relevant to their local context (Andreas, 2015).

Curriculum 2013 which is now beginning to be implemented either in elementary, Junior high school and senior high school can't be separated from the spotlight of various parties, both positive and negative. Based on the national education objectives, the concepts of content, learning materials and methods that used in learning activities formulated in curriculum 2013 that consists of 3 domains, there are attitude, knowledge and skills. The domain of attitude divided into two aspects, spiritual and social attitudes. All of domains, including curriculum tools, one of which is a syllabus that describes the competencies that students need to achieve in every subject matter. Syllabus is a reference for the preparation of learning framework for each subject matter study (Permendikbud, 2016).

Assessing the curriculum being carried out at every level of education can be done by analyzing the syllabus that has been developed and enforced in schools. Based on the results of the analysis on the syllabus can provide an overview of various information, among others (1) whether the curriculum in its implementation has been well interpreted, including in accordance with national education objectives (2) basic competencies to be learned, materials to be given, Which is expected to occur, as well as the means used to measure learners' learning success, and (3) whether each component has harmonious relationships. In addition to the position, syllabus also has a very important function. The function is as a guide or reference, by providing an overview of the main programs that will be implemented in achieving the learning objectives. As a guide or guide, syllabus can guide or direct the learning process that will be implemented so that there is no deviation. As a benchmark or a controller, a syllabus can be a tool for measuring or controlling how far the achievement of what has been planned in the learning process and syllabus as a written document, the syllabus can be a proof of what will be done and at the same time can be a tool of accountability of a learning process. According to (Parkes & Harris, 2002) the important functions of syllabus includes (1) serving as a contract, (2) serving as a permanent record, and (3) serving as an aid to student learning. Syllabus will provide information about how to plan for the tasks and experiences of the semester, how to evaluate and monitor one's performance, and how to allocate time and resources to areas in

which more learning is needed. This information can help students develop self-management skills that are valuable beyond the demands of a particular course.

In the implementation of learning in classroom, teachers refer to the syllabus and learning objectives based on the existing syllabus. Where the syllabus is based on the curriculum and syllabus is the elaboration of the national education objectives. The purpose of national education which is the ultimate goal of the educational process, bring up to institutional goals or objectives of educational institutions. The purpose of the educational institution is further elaborated into several curricular objectives or objectives of the study field, and then translated into learning objectives, or objectives to be achieved in a single meeting. Although the goals formulated by the teacher is the purpose of learning, but actually the goal to be achieved is the objectives that are above it, namely the curricular goals that come from the institutional goals and goals of national education. This needs to be understood, because in the implementation of teaching and learning process teachers are often trapped by the achievement of a very special purpose, so that the end goal as listed in the national goals to be neglected.

Based on the previous explanation, if the goal is implemented properly, especially teachers as developers of the field will be easy to achieve the objectives of the curriculum and learning that has been prepared. In fact the implementation of curriculum 2013 still has many problems. There are many pros and cons about the implementation. Syllabus as the important part of curriculum that determines learning process in school, especially in class needs to analyze and the result can confirmed with the curriculum that formulated. Therefore, the syllabus as the elaboration of the curriculum and educational objectives, needs to be considered, both in the syllabus content itself and its implementation, hence the need for further analysis on the feasibility and suitability of the syllabus used in the curriculum of 2013, especially at senior high school on biology matter class x over towards the goals of national education and educational objectives according to the experts as well as their implementation. So that can be obtained description of the extent of educational objectives, especially at senior high school that has been implemented and can be considered in the implementation of learning in school.

2. Method

The method used in this study using the method of document study analysis or literature study with a qualitative approach. Documents, books and literature are analyzed by mutual comparison. The aspect of the object analysis in syllabus for senior high school class x are; Core competence, is a categorical description of the competencies in attitude, knowledge and skills that learners should learn for a level of school, class and subject, Basic competence, is a specific ability that includes attitudes, knowledge, and skills related to the content or subject matter, subject matter, contains facts, concepts, principles and procedures that are relevant and written in the form of items in accordance with the formulation of indicators of achievement of competence, learning Activities, an activity undertaken by educators and learners to achieve the expected competence, assessment, is the process of collecting and processing information to determine the achievement of learning outcomes of learners, allocation of time corresponds to the number of lessons learned in the curriculum structure for one semester or one year, learning resources, can be books, print and electronic media, the surrounding or other relevant learning resources. Analysis is also carried out on the implementation of learning in high schools conducted by teachers to obtain description of whether the implementation of learning has been in accordance with the objectives of learning and has covered all the competencies contained in the syllabus and educational goals.

Instruments are structured to analyze the suitability and feasibility of the syllabus. The instrument used in this research is the syllabus conformity analysis table. Every aspect contained in the syllabus is judged to be appropriate by using an assessment rubric consisting of three categories that is highly appropriate, appropriate, and less suitable to use likert scale.

Data collection is done by collection and review of related document (Wiersman and Jurs, 2009). Scores are given based on Likert scale. Very appropriate criteria are given a score of 3, the criteria according to score 2 and criteria less appropriate given score 1. Scores obtained are presented by means of scores of all syllabus components divided by the ideal score multiplied by 100 percent.

3. Results

The results of the analysis show that in general the syllabus used for the class x biology

course is appropriate and feasible with the 2013 curriculum and its educational objectives with a feasibility and suitability of syllabus of 0.79 or 79% appropriate. Suitable syllabus components are identity of syllabus, core competence, assessments, time. While belonging to the eligible category is the basic competence, subject matter and learning. While for the less appropriate category is the source or instructional media.

Table 1. Summary Analysis of Syllabus

No	Aspect of Syllabus	Score Average	Category
1	Syllabus Identity	3	Very appropriate
2	Core Competence (KI)	3	Very appropriate
3	Basic Competence (KD)	2	Appropriate
4	Subject Matter	2	Appropriate
5	Learning	2	Appropriate
6	Assessment	3	Very appropriate
7	Time Allocation	3	Very appropriate
8	Instructional Media	1	Less appropriate
Total		19	

The core competencies contained in the X class biology syllabus of the 2013 curriculum consist of 4 competencies namely core competence 1 for spiritual competence, core competence 2 for social attitude competence, core competence 3 for knowledge competence, core competence 4 for skills competence. Core competence is analyzed based on two components namely content and rules of writing according to the reference contained in Handbook Developing and writing behavioral objective.

The content of core competencies should include (1) competency categories in the attitude aspects of being honest, disciplined, responsible, caring, responsive, pro-active, problem-solving. (2) Categories of competence in aspects of knowledge that is factual, conceptual, procedural and metacognitive. (3) Competence category in skill aspect is scientific attitude. (4) These three aspects must contain the lowest level to the highest ie for the attitude competence from the aspect of receiving to characterizing, the knowledge aspects of the C1 to C6 levels and skills including imitation skills to naturalization. Aspects these attitudes, knowledge and skills are emphasized both on core competencies and on other syllabus components as they are in line with national education objectives.

4. Discussion

The public demand for education is translated in the purpose of national education, educational goals of education level and educational objectives of educational institutions. The purpose of national education is the great goal of education of the Indonesian nation that is expected to be achieved (Ibrahim, 2014).

In an attempt to analyze the suitability of education that has been carried out with the objectives of education by law, the goals of national education and the curriculum, of course it is necessary to analyze the instruments covered in the curriculum. One of them is the syllabus. The analysis undertaken in this study is based on the 2013 curriculum syllabus used in high school on the subjects of class x biology. Then the results of this analysis can be an illustration of the suitability of learning objectives in schools and classes, especially on biology subjects.

The analysis was done by literature study on the class 10 biology syllabus released by the education ministry. Syllabus as the elaboration of educational objectives more specifically explains the learning objectives to be achieved students. Based on the 2013 curriculum, the syllabus should include core competencies and basic competencies, where core competencies consist of attitude, knowledge and skills domain. The core competencies are then explained in the basic competencies students must have in one subject matter. The basic competence should include the three domains of core competence. The analysis is based on 3 categories with the rubric that has been prepared. Very appropriate, appropriate and appropriate. If the syllabus component includes all the components or ideal syllabus criteria as described in the 2013 curriculum. Ideally, the syllabus should include components; Identity of syllabus, core competence, basic competence, subject matter, learning, time allocation, instructional media. The core competencies and basic competencies are analyzed based on syllabus content and rules that refer to the syllabus writing rules.

Based on the analysis on the suitability and feasibility of the syllabus in elaborating the national education objectives, it is found that the syllabus has been feasible and in accordance with the percentage of 79 percent. This means that the percentage of biology syllabus of X class at senior high school curriculum of 2013 is equal to 79% or equal to 0.79 and is included in very suitable category. So in writing, syllabus has been in accordance with the curriculum 2013.

The identity of the Biology syllabus senior high school class 10 has showed the criteria very feasible. This is because the identity of the syllabus has been in accordance with the description contained in Permendikbud. Number 65, 2013 that the identity of the syllabus should contain subjects, educational units, and class. Content or content of core competence (KI) includes affective, cognitive, and psychomotor domains. Affective domains are illustrated in KI 1 which includes the spiritual aspect and KI 2 includes the social aspects, the cognitive domains depicted in KI 3 that include factual, conceptual, and procedural knowledge, and the psychomotor domains depicted in KI 4 that include scientific skills and attitudes. All aspects of the three domains are consistent with Permendikbud. 69, 2013 based on the basic framework and structure of high school curriculum. For the biology syllabus of SMA 10 class itself the aspect has been fulfilled, so the core competency is declared very feasible. In terms of rules of writing was also the core competence in the syllabus Biology high school class 10 declared very feasible, because there is no ambiguous and ambiguous sentence. Each competency can be measured and related to everyday life.

Basic competencies for each material have met the relevance of KI 1 and KI 2. For KI 3 and KI 4 generally have met the linkage as well, but for KI 3 still leads to more conceptual and factual knowledge, while procedural knowledge is still poorly explored. The use of operational verbs of the knowledge domain of each competence has shown up to the level of C4 that is analyzing, although most are still at the level of C3 that is applying. The linkage of basic competence with KI 4 that emphasizes psychomotor or skill, in every basic competence is generally still less visible, it is because the use of operational verbs for the psychomotor realm seems to be much less suitable. It is shown in 7 basic competencies with the same operational verbs that present, but the verb is not contained in the psychomotor domain, nor is it in the affective and cognitive domain there is no "present" verb. The use of operational verbs in these basic competencies is still general in nature as stated in core competencies, whether in the cognitive or psychomotor realm. Regarding the relevance of the subject matter, it seems that the description of each basic competency is sufficient to meet the relevance. So in terms of content, basic competence in the syllabus of Biology of high school class 10 is declared already feasible. The classification of level knowledge in cognitive domain that explained in basic competence and implemented to classified level of knowledge in syllabus based

on Bloom's taxonomy. Bloom's taxonomy made a major contribution to the science of designing educational objectives. Indeed, prior to its publication, there was not much agreement as to the nature of objectives. Bloom adopted Ralph Tyler's (Airasian, 1994) notion that an educational objective should contain a clear reference to a specific type of knowledge as well as the behaviors that would signal understanding or skill related to that knowledge (Marzano & Kendall, 2008). Bloom divided level of knowledge into 6 major classes there are knowledge, comprehension, application, synthesis, evaluation (Bloom, et al 1956). Now the taxonomy revised especially on the operational word that used and showed in indicator of basic competence in syllabus.

In terms rules of writing basic competence, generally already fulfill with the grammar and the standard sentence. But in terms of competency there are still difficult to measure or observe, even though in operational verbs are almost separated from one object to another. So no one give rise to different perceptions. Similarly, the relevance of competence with the rules of everyday life has been linked too. Thus, the basic competence of the Class 10 of Biology syllabus is declared to have been feasible and in accordance with the terms of the writing principle.

In general, the subject matter in the syllabus of High School Biology class 10 contains knowledge in terms of facts, principles, and concepts. But there are still deficiencies in loading procedural knowledge. In fact, the relevant procedures can be combined with the psychomotoric ability to explore the skills of learners after understanding the material in the form of facts, principles, and concepts. A good learning activity as stated in Permendikbud No. 65 of 2013 that directs learners in the mastery of attitudes, mastery of knowledge, and mastery of skills. In the class 10 Biology syllabus, the learning activities have been referring to the scientific approach method, which performs 5 M (observing, questioning, gathering data, associating, and communicating), but learning is still emphasized on the mastery of knowledge and skill, while the mastery of attitude is still lacking. In Permendikbud No. 66 Year 2013, the assessment standard is based on authentic authentication that involves input-process-output. So the assessment is done continuously seen from three aspects, namely affective, cognitive, and psychomotor. Teaching quality is a key determinant of learning outcomes, the main mechanisms can used are concerted effort to improve the quality of teachers through training

and certification, and improvements to the size and distribution of the teaching force (Tobias et al, 2014).

Sources or learning media some still rely on books, charts, and print media. Where biology material for senior high school class 10 is a lot that can utilized the nature around as a source or media learning. This source or instructional media is still not feasible even though some media have been widely used. Recommend that the utilization of the surrounding nature is more optimized with the support of scientific approach considering in our country a lot of biodiversity that can be used as a source of learning.

Based on the analysis for each aspect, and the implementation of syllabus for learning process, however syllabus appropriate with curriculum of 2013, in fact of learning process still faced problem in implementing learning because to implement all of component of syllabus in learning is difficult because the reality in schools and classroom, teacher meet different condition and problem. Based on the interview with teacher that implementing learning based on the syllabus of curriculum 2013 that the assessment difficult to assess, especially for affective aspect. Besides that, student must faced many subject matter that too hard for student to make it balance. If the condition still happened, the objective of subject matter and in general the goal of national education cannot be reached. To provide future opportunities to students, it would be the system curriculum should be more flexible and include local curriculum that is "creativity" according to local conditions respectively: such as local agricultural curriculum, fisheries, plantations, technology and others (Riyana, 2008). Efforts to encourage global competition are less adaptable. Diversity conditions in Indonesia which are not yet all children in Indonesia, especially those who are not from big cities, know life modern society with all forms of technology. Lack of resources that support the distribution of teaching materials is also still a constraint. Infrastructure limitations and lack of understanding from the implementers, including teachers, towards the essence of the curriculum also becomes another obstacle in the implementation of the 2013 curriculum (Sweinstani, 2013).

To focus on the national education goals, all of the part of curriculum still need to considered the condition of schools, competencies, students and teacher because to reached the ideal education must attention to all component of education. In general, the education system in Indonesia is good if implemented in accordance with the ideal rules in force. For example in the

2013 curriculum that emphasizes the existence of learning-centered learners, but in reality the learning process that took place not in accordance with ideally. This is due to inhibiting factors such as lack of teacher readiness, inadequate educational facilities, and character. Another disadvantage is the evaluation system which still emphasizes quantity not quality. The important thing that can be an input for the advancement of education in Indonesia is the emphasis on the quality of education not quantity. For example by reducing the subject matter at each level of education, the reduction of the lesson adjusted to the stage of development of learners, and the educational evaluation system that does not emphasize the assessment on a certain quantity (certain value). In addition the government needs to improve the professionalism of teachers with the program.

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COMMUNICATION PATTERN BETWEEN MOTHER AND CHILD IN FAMILY OF FEMALE MIGRANT WORKERS IN WONOSOBO REGENCY, CENTRAL JAVA

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Abstract

Children are a blessing to the family. Therefore, they should be nurtured, well groomed and educated, and later, shall be able to contribute to their families, community, and nations. Family is the first place a child experiences education. In this case the role and function of parents in educating children becomes very important especially for the growth and development of children. But what happened to the family of female migrant workers in Tracap Village, Kaliwiro Wonosobo is very unique. A mothers who should stay home take care of children, instead going abroad and become migrant workers. This fact raises a question mark. How is the parent's communication pattern with her child intertwined? The purpose of this research is to know about parent communication pattern with children of the family of female migrant worker in Wonosobo and the impact of the communication pattern to the development of child's behavior and talent. This research is using qualitative research method. The data obtained through direct observation, interviews, documentation and literature study on women migrant workers from Wonosobo. After passing the data validity test by using data triangulation and data analysis technique through interactive process hence we can convey result of research as follows: 1) communication pattern between parent to their children in the family of female migrant worker in Tracap Village Kaliwiro Wonosobo is permissive communication pattern. 2) Such pattern of communication will have further affects on the formation of child unusual behavior and talent. An example is when a 8-year-old child whom never wear a clothes, and have no shame on doing so. Or the habit to eating white rice with raw water. Or drink raw water. Or other behavior in the form of taking his brother to take the neighbor's crop without feeling guilty when he was 10 years old.

Keywords: migrant workers, communication pattern, communication, care

1. Introduction

Children is a blessing to a family. Therefore, they have to be nurtured, well groomed, well educated, and later give contribution to the family, community, nation and state. The first place a child experiences education is family. In this case, parents role and function in educating children becomes very important especially for their growth and development. At that stage development of fundamental aspects such as cognitive, affective, psychomotoric, communication and social begins to find concrete forms and articulations.

At this stage, children begin to learn to walk, run, jump, climb, and learn to do some complicated move. At about the same time they also begins to learn some syllables or simple words. One of the important thing is repetition as a key to progress, a neural connection which is then reinforced by the use of both large and small muscle movements. At the same moment, it will begin to appear also children ability to distinguish

the language, the one he heard around and what he did not hear.

Here we recognize the important role of parents to consistently, greet, guide, guide, support, safeguard, care and compassion become very important to normal development of their basic abilities.

Another important role for parents at this stage is to educate children to grow into individuals who can understand and learn social institutions, cultural symbols, and invent values of what they learn as a guide in meaningful behaviour in his social life (Rohidi 1994: 11). In this case, parent provides the basis for character's behavior formation, morals, and children's education. Parents experience in communicating either orally or non-verbally with the child will influence the formation of behavioral patterns, talents and child character.

When the process of communication between parents and thier children takes place openly, the interaction that is entwined in the family runs in harmony, and dynamic which later

on shall bring up a natural family cooperation. In other words, harmonious interaction will be able to facilitate the process of socialization of children. However, if the communication process is less harmonious, then the process of socialization of children will also be hampered, it will have an impact on children pattern of behavior. Often heard cases of deviation behavior of children whether in childhood, adolescents and adults actually reflect the success or failure of the process of socializing the formation of personality in his own family. The pattern of children's communication is influenced by ethnographic background, ie living environment in the form of habitat, settling pattern, social environment, history, livelihood system, kinship system, community system, belief system, religious ceremony, Therefore, the way of child care differs in different societies and cultures (Danandjaja 1998).

Referring to dr. Baumrind, there are 3 types of communication pattern between parents and children which are democratic, authoritarian and permissif.

1. Democratic pattern : is a communication pattern which prioritize child need, but never hesitate to controll them. Parents with this behavior are rational, underlying their actions on common sense. Democratic type parents are also realistic about the child's abilities. They have no hope beyond the child's abilities. Giving children the freedom to choose and take action. They also have a warm approach to their child. (Bdk. Ira Petranto, 2005).
2. Authoritarian pattern : is a communication pattern which tend to tends to set an absolute standard to be obeyed by their child. These standards are usually followed by threats such as the parent does not want to talk to when the child does not eat. Authoritarian type parents tend to force, rule and punish. If their children do not want to do as told, then they never hesitate to punish them. They also do not know compromise and doing one-way communcation. (Bdk. Ira Petranto, 2005).
3. The permissive communication pattern is the parent's communication pattern that gives opportunity to do something without adequate supervision. They tend not to warn their child when in danger. They also tend to give little guidance to their child. Maybe that's what causes them so they tend to be liked by children. (Cf Ira Petranto, 2005). For example a child slamming his toys left, naked from the bathroom left so without being reprimanded. In fact, parents who

apply this pattern of communication just want to avoid conflict with their children. (Debri, 2008).

Based on the previous description, we become interested to examine the pattern of parenting communication in families of women migrant workers. Considering an interesting life they are having, where almost 80% women and many of them are mothers. The fact shows that they are away from their children as they are migrant workers abroad. While their children live together with their grandparents and fathers. In this case it is interesting to find out what kind of communication patterns they are doing to their children and husbands considering their distance from their families. In one side, a mother should be close to her child to nurture and educate them; however, the fact stated that they work and live fact far away from their children.

Communication pattern in female migrant workers in Wonosobo within their families as very interesting to be studied. Based on the description, the researcher will try to find out how the parent child's communication pattern to the female migrant worker family of Wonosobo by choosing the title of Parenting Communication Method of Child on Family of Female Migrant Workers in Wonosobo Regency, Central Java. Based on the background, therefore we can identify several problems, for examples : (1) Mothers are away from their children: how can the communication pattern between parents – children occur? (2) The fact that mothers are away from their children: How can parents develop their childrens aptitudes? (3) Childrens are away from their mother: How is the impact of parents' communication pattern to their children? Based on problem identification, therefore it can be formulated as (1) how is the communication pattern between parents and children on Wonosobo female migran worker family? 2) What is the impact of the chosen communication pattern to their children development? The objectives of this research is to see (1) communication pattern between parent and children at Wonosobo female migrant worker family, (2) impact on the pattern to children's development?

2. Literature Review

Communication is a process of delivering messages from one party to another with a specific purpose. In this case there are parties acting as the source of the message, which conveys the message to the recipient of the message. The recipient then responds to the message. Meanwhile Rogers and Kincaid

(Wiryanto 2004: 6) define communication as a process whereby two or more parties exchange messages between each other, for the sake of mutual understanding.

While the term communication pattern or commonly called communication model is defined as a system consisting of various communication components related to each other to achieve certain goals. The communication pattern is a system of delivering messages through certain symbols, meaningful, and stimulating passengers to change the behavior of other individuals. It can also be understood as patterns of relationships between two or more people in the transmission and reception of messages in an appropriate way so that the intended message can be understood (Djamarah, 2004:1).

Application of family communication patterns as a form of interaction between parents and children or between family members have implications for the process of emotional development of themselves. In the process of communication, every family member will learn to know him/herself and understand his/her own feelings as well as the feelings of others.

Simply communication pattern can be divided into: 1) one-way communication pattern which is the process of delivering messages from the communicator to the communicant either using the media or without media, without any feedback from the communicant in this case the communicator acts as a listener only. 2) Two-way communication (two way traffic communication) is the process of delivering messages that occurs reciprocity between communicator and communicant for a particular purpose. But in essence who started a conversation is a communicator. In communicating, communicators have a specific purpose. Through the communication process communicators strive to achieve these goals, both through the process dialogue, feedback that occurs directly (Siahaan, 1991: 57), supported non-verbal languages. 3) Pattern of multi-way communication is the process of communication occurs in one group with more members in which communicators and communicants will exchange ideas dialogically.

Forms of Communication Pattern in the Family

One important factor in family communication is the communication pattern. Why? Family is the first social institution known to the child during the early socialization process. Devito (1986: 157) divides four patterns of family communication that are common to families. In essence, the pattern of family

communication consists of Equality Pattern, Balance Split Pattern, Unbalance Split Pattern and Monopoly Pattern.

Equality Pattern is family communication pattern where each family member sharing the same rights in communication opportunities. The role of each family member is run evenly. Communication runs honestly, openly, directly, and free from power sharing. For example in decision making, every family member has the same rights. It is believed to provide the highest satisfaction to all family members when decisions are made in equality.

Balance Split Pattern is family communication pattern where each member has each person has a different domain of power in the equality of the relationship that is maintained. In this pattern each family member is regarded as an expert in a different field. For example, in a normal family, the husband is trusted in business or politics. Wife is trusted for child care and cooking. But the division of roles by sex is still flexible. Conflict that occurs in the family is not seen as a threat because each individual has their own area and individual expertise.

Unbalanced Split Pattern is family communication pattern where one person dominates the situation, considering or he consider himself as the only one who knows better than the rest. The dominates take control in the family. He is trust to have higher intellectual ability, wiser or a bread winner. The other members shall follow his lead, let him to win the argument and take the decision by himself.

Monopoly Pattern is family communication pattern where one member is seen as power holder. The family members are usually more instructive than communicating. He has a full right to make decisions so rarely or never ask or ask for opinions from other family members. He holds the power of ordering to other family members what they can and should not do. If any family member is willing to take a decision then he will seek permission, and opinion, and make a decision based on the decision of the sole ruler.

This distinction in communication patterns describes the division of roles and position of each individual in a family. Family communication patterns play a role in receiving messages and feedback that occurs between family members. For example in the pattern of monopoly communication, only one family member is entitled to take a decision in the family. This causes other family members are not entitled to voice opinions or participate in decision-making. The result is that family communication tends to be a one-way

communication. Similarly, with the planting and development of values in the family, the only absolute role is the holder of power. Thus the communication of power holders to other family members is merely instructional.

Families have a big role in teaching, guiding, determining behavior, and shaping the child's perspective on values prevailing in society. Families shall provide the cultivation of values that children need through an appropriate pattern of communication so that communication goes well, creating a harmonious relationship, as well as messages and values to be conveyed acceptable and well practiced.

Some of Communication patterns between parents and children

Meanwhile Baumrind shares three kinds of communication patterns of parents with children. First, the pattern of democratic communication is a communication pattern that prioritizes the interests of the child, but does not hesitate in controlling them. Parents with this behavior are rational, underlying their actions on common sense. Democratic type parents are also realistic about the child's abilities. They have no hope beyond the child's abilities. They also give children the freedom to choose and take action. They also have a warm approach to their child. The democratic communication pattern becomes the demand to be applied in the family considering the timing, as children will have their own goal to have their independence, the courage to express their ideas, honing the ability to solve interpersonal problems, the courage to express feelings, and responsibility.

Second, authoritarian communication pattern is parent communication whom tend to have definite standart which need to be applied by their children. Mostly, their standard is filled by threats. Such as unwillingly to talk when children refused to eat. Authoritarian type are pushy, orderly and tend to punish. When their children are unwilling to do as told, they do not hesitate to punish them. They dont compromise and only having one-way communication.

Third, permissive communication pattern is patterns that give the child an opportunity to do something without adequate supervision. They tend not to warn their child when the child is in danger. They also tend to give little guidance to their child. Maybe that's what causes them so they tend to be liked by children. For example a child slamming his toys left, naked from the bathroom left so without being reprimanded. In fact, parents who apply this pattern of communication just want to avoid conflict with their children.

The next question is whether each family has the same pattern of family communication? The answer is of course not! Why? Because there are factors that influence it. These factors are family socioeconomic factors consisting of parents education level, occupation type, family social status, residence environment, and beliefs and cultures.

Parents

Parents in this paper are defined as a family component consisting of father and mother, the result of a legitimate marital bond and forming a family. In addition, they also nurture and guide the child. Parents in a family have a responsibility to educate, nurture and guide their children to reach certain stages and prepare them to enter a social life. Thus father, mother and children form what is commonly called the family.

After all, the first knowledge a child receives is from his parents. Because her parents are the center of the children's lives. Through parents also children get acquainted with the outside world. So every child's emotional reactions and thoughts formed later on are in fact strongly influenced by his attitude and the way his parents live. Of course it is assumed that the child is born cared for and cared for by both parents. Thus, parents or mothers and fathers play an important and very influential role in the education of their children.

Children

Children are defined as individuals who are between 0-12 years of age. While the nature of the child is a unique individual who has growth patterns and developments in aspects of physical, cognitive, socio-emotional, creativity, language and communication that are specific to the stage that is being passed by the child in question. Ordinary childhood is also known as golden age or golden period. Because at this time almost all the potential of children to have sensitive period to grow and develop rapidly and extraordinary. Nevertheless the development of each child at that time is not the same. Nutritious and balanced diet and intensive stimulation are among the factors that cause such differences.

Children have specific characteristics, both physically, socially, morally and so on. Siti Aisyah, et al (2010: 1.4-1.9) describes the characteristics of children as follows. 1) has a great curiosity, it can be seen in how often children ask about what they see. If the question remains unanswered, they will keep asking until he gets the answer. 2) Unique person, derived from genetic, environmental or combined

factors. 3) like to fantasize and imagine. They like to imagine and develop something beyond real conditions. For example: a child can imagine a carton as a toy car. 4) the most potential time to learn, because at this time the most sensitive and potential children to learn something. Because at this time the child's curiosity is very big. 5) show egocentric attitudes that can appear in their frequencies thinking and talking about themselves and their actions with the purpose of benefiting itself. For example, children like to fight for toys and cry when his wishes are not fulfilled. 6) has short concentration power range. The attention span of 5-year-olds to be able to sit quietly watching something is about 10 minutes, except for the things that usually make her happy. Children often feel bored with one activity only. Even the child can easily turn his attention to other activities that he considered more interesting. 7) as part of social beings, often playing with friends in the neighborhood. By playing, children learn to socialize.

Impact of Communication Pattern on parents to Childrens Aptitude and Characters

If it further observed, every human being is born with potentials, if the potential is not fostered and developed, he can deviate from his nature. Naturally, it should be adapted to the situation of the household and the state of the environment. Families as primary educators at home must understand the ways to develop every potential that the child has. The potential possessed by each person is very varied, this shows the basic ability of children in certain areas.

A democratic pattern of education that focuses on the freedom to act according to the ability, will make it easier for children to recognize their own abilities and make it easier to express their potential. Giving freedom to the child by providing opportunities to interact with his environment makes him familiar with his environment. Thus through the environment he can learn a lot and gain a lot of knowledge. Similarly, authoritarian pattern of education will obscure or even eliminate the potential of the child.

However, parental supervision in the meaning of giving freedom to children to choose and interact with the environment, is not left alone. In order for children to interact more broadly (within positive-value boundaries) and have knowledge of the norms contained in the religion as well as the norms that exist in the community, at school, and wherever the child is located parents must Taking into account and

providing appropriate supervision to the child's developmental level.

3. Research methods

The method used in this research is qualitative research method. Data collected through observation, interview, field notes and literature study. The purpose of this study is to see the empirical reality behind the phenomenon, deep and thorough about the pattern of communication with female migrant workers in Wonosobo regency. Therefore the use of qualitative approach in this research is by matching between empirical reality with existing theory by using descriptive method. In this research, researchers act as data collectors and as active instruments in an effort to collect data in the field. While data collection instruments other than humans are various forms of aids such as tape recorders and cameras that can be used to support the validity of the results of research, but serves as a supporting instrument. Therefore, the presence of researchers directly in the field as a measure of success to understand the case under study, is absolutely necessary. The location of the study is the place where the research will be conducted, along with the complete address. In this study the researchers took the location in the Village of Women Migrant Workers Tracap Village District Kaliwiro, Central Wonosobo Answer, in the Year 2016 and early Year 2017.

Data Validity

The validity of the data is an important part in a study, as a form of responsibility for the truth data that has been obtained. In examining the validity of this data, researchers used data triangulation. Triangulation is a validity check technique or valid whether or not the data using something else outside the data for the purposes of checking or as a comparison of the data (Moleong, 2007: 330). For the technique itself, in this research used triangulation technique with source. Triangulation of sources means comparing and checking the degree of confidence of information gained through different times and tools in qualitative research. According to Patton in Moleong (2007: 330) it can be achieved through:

1. Comparing the observed data with interview results.
2. Compare what people say in public with what they say personally.
3. Compare what people say about the research situation with what it says all the time.

4. Compare the situation and perspective of a person with different opinions and views of people like ordinary people, middle or high educated people, people residing, people of government.
5. Compare the results of interviews with the contents of a related document

4. Discussion

Village Tracap, District Kaliwiro, Wonosobo regency, Central Java is a village of Women Migrant Workers founded by Ms. Maizidah Salas, a retired migrant worker. This research is a continuation of research we have done previously in the same place. From the previous research we realized that the theme of parenting child communication is interesting to be researched in the Female Migrant Workers' Village. Because from previous research we get information that almost all women who become migrant workers have or have been married. And that they left their children to go to work as migrant workers.

The informants interviewed were five women migrant workers. The five persons can be detailed as follows: one person has been a migrant worker in Saudi Arabia, two in Hong Kong and two others in Taiwan. All of them are married when leaving as migrant workers. For reasons of secrecy the researcher did not further elaborate on the personal data of these informants

Parent- child's communication pattern to the workers' family. At first time mother decided to work as a migrant worker abroad. The decision then had a direct impact on the separation of the mother from her husband and child. Meanwhile, fathers who are de facto living with their children face the demands of making a living for the family. This fact indirectly forces the child to be cared for by his grandparents. Practically those who interact intensely with children every day are his grandparents. The father interacts with their children in the morning or in the afternoon until the evening. While the mother communicates with her child can only be done through telephone assistance. That is if they are allowed by their employers. Generally their employers do not allow them to use mobile phones.

Based on the results of interviews with full time migrant workers it is known that they are prohibited by their employers using Mobile. That means communication with husband and child is not intertwined every day or every week. In addition they do not get permission from the employer, long distance direct costs are not cheap. Consequently mother and child

communication, mother father is hampered by the situation.

What about father communication with a child at home? Dad is usually busy working for a living every day. So the child is fostered by grandparents at home. So practically who communicate intensively with children every day is grandparents grandmother.

Based on these facts it can be concluded that the pattern of parent child communication on the family of women migrant workers Tracap Village, Kaliwiro District, Wonosobo District, is a permissive communication pattern. The permissive communication pattern was formed as a result of the separation of children and husbands from mothers and wives because mothers became female migrant workers.

We must admit that the first knowledge a child receives is through his or her parents. Because her parents are the center of the children's lives. Through parents also children get acquainted with the outside world. So every child's emotional reactions and thoughts formed later on are in fact strongly influenced by his attitude and the way his parents live. Thus, parents play an important and important role in the development of their child. Of course it is assumed that the child is born cared for and cared for by both parents.

However, the permissive communication pattern that occurs between the parents and children of women migrant workers in Tracap Village, Kaliwiro Subdistrict, Wonosobo has an impact on the unnatural formation of children's behavior and talents. Like never wearing clothes even though his age is 8 years without any shame. Or used to eat food in the form of white rice sprinkled with raw water. Or drink raw water. Or other behavior in the form of taking his brother to take the neighbor's crop without feeling guilty when he was 10 years old

5. Findings

There are five research findings:

- a. Process Permissive communication pattern between parents and children of women migrant workers Tracap Village, Kaliwiro Wonosobo, was formed because mother went to work as migrant woman overseas.
- b. Communication between mother and child is very minimal.
- c. Father who stayed at home with his son also minimal communication with his son because father busy working for a living.

- d. Intense communication occurs between the children with his grandparents.
- e. From the permissive communication pattern, there is an unnatural impact on the formation of children's behavior and talents.

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6. Conclusion and Recommendation

The permissive communication pattern between the child's parents in the family of women migrant workers in Tracap Village, Kaliwiro Wonosobo was formed through the process. The process occurs as a result of the departure of mothers working abroad as migrant workers. This fact keeps the child and father away from his mother and his wife. Meanwhile, fathers who live with children at home have very little communication time with their children because the father is also more outside the home to earn a living for the family. So practically grandparents who have intense communication with will. The impact of this permissive communication pattern is the formation of unnatural behavior and talent. It is suggested that child care and care should be one of the key considerations in making decisions so that children are not victimized. Suggestion for the local government is that women go abroad leaving their children partly because of the absence of jobs that can support their families in the village. For that it is a good thing if these women are unemployed.

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IMPROVING THE QUALITY OF SCHOOL IN POLITICAL DYNAMICS in INDONESIA

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Abstract

Education is one area that is vulnerable to political dynamics. As in Indonesia, politics towards education makes education work statically. Schools as educational institutions feel directly the impact of this political dynamics. Changes in political policy in education that have been done by the government politically, such as replacing education ministers in half of government journey have an impact in education policy. It has a direct impact on schools, which is difficult for schools to grow.

This study aims to describe how to improve the quality of schools that are resistant to political dynamics in Indonesia, and to describe the attitude of educators in responding to the political dynamics in Indonesia. The method of research used in this research is qualitative descriptive with data collection technique of literature study which aims to study about how to improve the quality of schools that are resistant to political dynamics in Indonesia and the attitude of educators in responding to the political dynamics in Indonesia.

The results of this study are; To improve the quality of schools that are resistant to political dynamics in Indonesia can be done by doing various innovations that are always evaluated in building the school system both regarding the policy and learning process in school. The attitude of educators in responding to the political dynamics in Indonesia can be done by communicating openly, honestly, and focusing on the priorities of schools with the parents, stakeholders and community on an ongoing basis.

Keywords: School Quality, political dynamics in Indonesia

1. Preface

Education is an effort to develop the potential of learners, whether physical potential, inventiveness, taste, and initiative aims to prepare the person in balance, unity, organic, harmonious, and dynamic to achieve the purpose of life. Education in its development is inseparable from politics, therefore politics in education is called education politics. Political education is the strategic policies undertaken by the government in the field of education.

Indonesia is a developing country with special attention in the field of education. This can be seen from the allocation of state budget in the education sector by 20% of the State Budget. The amount of education budget makes the government to target high standards in improving the quality of education to stakeholders and educational players. The change in education policy caused by the turn of the minister politically becomes a problem that must be faced in the field of education, especially schools.

School as a place of formal education becomes difficult to develop, due to the strategic policies undertaken by the government in the

field of education that is dynamic, consequently the school in improving its quality becomes static. Supposedly, the politics of education is done in a sustainable and national way, as do developed and developing countries, such as Singapore, Japan, China, and a number of other developed countries. Singapore is advancing because of the quality of its citizens in the service / service sector, both tertiary services and quarter services so that the country is called a service country. Japan is advancing due to the quality of its citizens in mechanical (automotive) and electronic technology. China is advancing due to its innovative power and strong work ethic in developing new products and services that tend to be cheaper compared to other countries.

2. Discussion

The Dynamics of Political Education in Indonesia

Lasswels (1958) states that politics is who gets what, when, and how (Slamet, 2014: 326). In line with that statement, Miriam Budhiardjo argues that politics is a diverse activity in a political system, concerning the process of determining and implementing political goals in

a political system (Sarnoto, 2012: 32). Based on the above opinion, it is concluded that politics is an activity that aimed to obtain the established political goals.

Politics runs in all fields, both economic, social, and cultural. Political education is part of politics in the field of culture. Educational politics is a process of selecting values and allocating limited resources in decision-making processes involving different groups that have different interests in order to influence decision-making so that the values and allocation of the limited resources desired by particular groups are included in the taking Decision (Slamet, 2014: 326). Furthermore Slamet explained that in politics the emphases are more on short-term interests with the importance of the group (constitution). The political platform may change if the regime changes as well. In fact, the world of education requires continuous professional services in the long term and if the world of education mixed with the world of politics, it is feared there will be distortion of education. However, in reality in Indonesia, especially in the current era of reform, education and politics interact and even the world of education has become the arena of political interests, both at the central level, provincial, district / city, and educational unit (Slamet, 2014 : 326).

At the central level, for example, the dissolution of the Directorate General of Quality Improvement of Teachers and Education Personnel (Ditjen PMPTK) was protested by the Teachers' Association of Indonesia (PGRI). At the urging of PGRI, then established the Human Resource Development Agency for Education and Culture and Quality Assurance of Education as a substitute of the Directorate General of PMPTK. At the provincial and district / municipal levels, the role of governors and regents / mayors, especially in the allocation / placement of the head of the education office is so dominant that it is difficult to guarantee the quality. Luckily Law No. 5/2014 has been issued on State Civil Apparatus where recruitment and selection of heads of education offices are no longer dominated by governors and regents / mayors, but by the State Civilian Apparatus Commission (nonstructural institutions which are independent and free from political intervention). At the educational / school unit level, interest interests among stakeholders are dynamic, for example between school committees, parents, and teacher councils in the allocation of funds among subjects is a dynamic process (Slamet, 2014: 326).

Improving the quality of schools that are resistant to political dynamics in Indonesia

Education is a conscious effort to prepare learners through teaching, guidance and or training for their future roles. Education can take place in families, schools, and communities. Education is a process of humanity and prepares people to face the challenges of life.

The development of society that has entered the century of information technology demands the mastery of science and technology professionally. This has implications for the strengthening of the demand for improving the quality of education, which includes: professional teachers who have a role to improve the quality of education in schools. In the current era, schools are required to serve as educational institutions that prepare graduates who are ready to face the competition of the future. In playing the role, the school can not avoid to always make improvements and improve the quality of schools.

In relation to efforts to improve and improve the quality of schools in the dynamics of politics in Indonesia can be done by considering five main aspects, namely: 1) teaching and learning process, 2) school leadership, 3) school management, 4) facilities and infrastructure, and 5) School culture (Depdikbud, 1999: 10). Efforts to improve the quality of education in schools have tended to use structural approaches with emphasis on the technical-administrative (format oriented), rather than on goal oriented that refers more to the cultural approach because it involves values. Yet the improvement of education quality in schools can not be separated from the school culture base. With this culture base, principals, teachers, students, and parents will be able to feel (possessing sense of belonging), so that it will nurture, improve, and strive for improved school quality.

In an effort to improve the quality of schools, a cultural approach can be used that is linked to a number of supportive activities, as described by M. Sastrapratedja (2001) below:

1. Establishment of work teams from various elements and levels to dialogue and negotiate.
2. Oriented to vision development rather than focusing on deficiencies. If the deficit model overemphasizes the shortcomings and problems within an institution, the visionary approach emphasizes a collective view of the ideal.

3. Collegial relationships to strengthen group identity, jointly responsible, and mutually supportive.
4. Trust and support as part of social capital is essential for the operation of an institution.
5. Shared values and interests, rather than power and position are essential to reconcile the various interests that exist.
6. Access to information is essential to achieving institutional goals and improving performance.
7. Lifetime growth is an opportunity that needs to be provided for all institutional citizens to develop themselves and become professionals.

Efforts to improve the quality of the school should be accompanied by various innovations and evaluated the school system both regarding the policy and learning process in school.

In addition to the approach as outlined above, to improve the quality of education in schools, there are four models of educational quality improvement as described by Zamroni (2009), the following:

1. The World Bank Model, which is based on:
 - a. The production function approach, which assumes that the quality of educational output is the result of a process that is a function of input, both raw input and instrumental input. This approach assumes that the process aspect is an unidentified black box, so output quality is assumed to be a direct and linear function of input quality. This model is implemented in the form of policy that to produce quality output the only strategy pursued is to improve the quality of inputs.
 - b. The production function approach also rests on the assumption that policies or forms of intervention that have been successfully implemented in a country will also be successfully implemented in other countries.
2. New Order Model:
 - a. The quality improvement model of education implemented in the New Order era tends to be compliant and follows the World Bank model, through a production function approach. This policy is implemented in the form of teacher quality improvement through pre-

service training and in-service training, provision of educational facilities, book provision and curriculum improvement.

- b. The centralized management of education causes education institutions to lose their independence in school planning and development, quality improvement is done top down, and based on rational planning model.
- c. The quality improvement policy of this model proved unsuccessful in improving the quality of education significantly, since the improvement of input quality was not always followed by the expected improvement of output quality. Here, it appears that the role of the process, which has tended to be ignored.

3. Unesco Model:

Unesco as an international institution engaged in education and culture emphasizes the improvement of education quality on the quality of output produced, namely:

- a. That the output / output of education must meet four pillars, namely: (1) learning to do (solve daily problems); (2) learning to know or learning how to learn (keep learning); (3) learning to be (ethically responsible); And (4) learning to live together (the ability of respect and work with others).
- b. In line with the Unesco model, Kay (2008) identified five competencies that should be developed through education related to the context of life that will be faced by the students. The five competencies are: (1) the condition of global competition requires global awareness and independence; (2) the conditions of global cooperation, requiring global awareness, the ability to cooperate and communicate globally with ICT; (3) the development of information is very fast, requires the ability of technology literacy, critical thinking and problem-solving skills; (4) work and career development requires the ability of critical thinking, problem solving, innovation, flexibility and adaptability are high; And (5) service-based economic

development, requires ICT literacy skills, critical thinking and problem solving skills. Thus, according to Kay the competencies that need to be supplied to graduates in the face of the global era are: (1) global awareness, that we must follow the flow of globalization intelligently, or in javanese terms "ngeli ning ora keli"; (2) the character of independence; (3) ability to communicate and cooperate globally; (4) ability to master ICT; (5) technological literacy; (6) critical thinking and problem-solving skills; (7) ability to innovate; and (8) have flexible and adaptable knowledge and skills.

- c. Meanwhile, the Ministry of Education of New Zealand, made efforts to improve the quality of education through improving curriculum content, with the aim that graduates of education have the following basic skills: (1) critical thinking and problem-solving skills; (2) the ability to communicate both orally and in writing; (3) self-managing ability (self-motivated, confident, and able to plan for the future); (4) ability to relate, cooperate and negotiate with others; And (5) the ability and willingness to participate and contribute to the welfare of the people.
4. Reformation Model:
 - a. Education democratization policies, implemented through decentralization of education management authority to regions, and schools or educational units. Decentralization policy is realized in the form of: (1) school-based management and MPMBS; (2) block grant model assistance system; And (3) development of KBK curriculum, which later developed into KTSP.
 - b. Improved quality through improved school management and school culture development.
 - c. Policy on improving foreign language learning and ICT.
 - d. The application of learning methods that fun and educate, such as: joyful learning, quantum learning, cooperative learning,

learning revolution, Pakem, Paikem, CTL, and the application of ICT in learning.

- e. Establishment of educational standards: National Education Standards (PP 19/2005), which are outlined in 8 standards (Permendiknas), and implementation of UAN.
- f. School development stages: MPMBS, Mandiri School, SSN, RSBI, SBI and SPM.

The four models have advantages and disadvantages in improving the quality of education. However, the model can be adopted to improve school quality. For use in improving school quality should be tailored to school conditions. Given each school has different problems in improving its quality.

Attitudes of Educators in Political Dynamics in Indonesia

1. Focus on school priorities.

In responding to the dynamics of educational politics, an educator must focus on the priorities of the school, which is to carry out the duties of a professional educator, that is to provide science, experience, and exemplary. In carrying out its duties especially in the learning process, an educator must:

- a. Understand individual differences of learners
- b. Identify or strength and lack or weakness learners
- c. Group students in the classroom according to the level of problems that need to be addressed
- d. Work with parents and other professions to achieve optimal learning outcomes
- e. Prepare materials, strategies, and instructional media needed by learners
- f. Teachers modeled enrichment models for children who have speed and set up remedial services for children with low learning speeds
- g. In conducting the evaluation, teachers should not be sufficient to only measure academic aspects, but non-academic aspects need to be considered
- h. Provide feedback on the success achieved and report to the principal and parents (Saat, 2014: 107)

2. Communicate openly, honestly with guardians, stakeholders and the community on an ongoing basis.

In responding to the dynamics of educational politics, an educator must be able to communicate with the pupil, stakeholder and community on an ongoing basis, as mentioned in the code of ethics of teacher pasal 6 on the basic values of operational relationships of teachers with students in pasal 2 and the relationship of teachers with the community in pasal 3, as follows:

Relationship between teachers and

student's parents:

- a. Teachers trying to foster effective and efficient cooperation relationship with Parents / Guardians students in carrying out the process of education.
- b. Teachers provide information to parents honestly and objectively about the development of learners.
- c. Teachers keep the information of each learner informed to others who are not parents.
- d. Teachers motivate parents to adapt and participate in promoting and improving the quality of education.
- e. Teachers communicate well with student's parents about the condition and progress of learners and the process of education in general.
- f. The teacher upholds the right of the parent to consult in relation to the welfare of progress, and the child's or children's aspiration for education.
- g. Teachers should not engage in professional relationships and actions with their parents for personal benefits (DKGI, 2012).

Relationship between teachers and society:

- a. Teachers establish harmonious, effective and efficient communication and cooperation with the community to advance and develop education.
- b. The teacher accommodates the aspirations of the community in developing and improving the quality of education and learning.
- c. Teachers are sensitive to changes that occur in society.

- d. Teachers cooperate wisely with the community to improve the prestige and dignity of the profession.
- e. Teachers make every effort to jointly with the community play an active role in education and improve the welfare of learners.
- f. Teachers should not divulge the secrets of their colleagues and learners to the public.
- g. Teachers should not present themselves exclusively in public life (DKGI, 2012).

3. Conclusion

The improvement of school quality in political dynamics in Indonesia can be done by considering five main aspects: 1) teaching and learning process, 2) school leadership, 3) school management, 4) facilities and infrastructure, and 5) school culture. While the attitude of educators in the dynamics of politics in Indonesia that educators should focus on the priority of the school, which is carrying out the duties of a professional educator, among others: provide science, experience, and exemplary. Able to communicate openly, honestly with guardians, stakeholders and community on an ongoing basis.

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RESISTIVITY OF THIN FILM (Cu/Ni) USING ELECTROPLATING METHODS

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Abstract

This study aimed to characterize the electrical properties of the thin film of Cu/Ni based on resistivity function. A thin film of Cu/Ni is fabricated using electroplating methods. Variations of current density which used in a coating process is 0.2 A/cm², 0.4 A/cm² and 0.6 A/cm². The thin film of resistivity values measured using the Four Point Probe at room temperature ($\pm 26^\circ\text{C}$). the results show that the resistivity linear function followed a linear equation are $R_s = -0,00007t + 0,00133$; $R_s = -0,00006t + 0,00127$ and $R_s = -0,00005t + 0,00121$, respectively.

Keywords: resistivity, thin film of Cu/Ni, electroplating method

1. Introduction

Resistance Temperature Detector (RTD) utilizes the properties of a material that undergoes a change of resistance as result of ambient temperature changes [1]. RTD is the best standard as a temperature sensor when compared thermocouple or thermistor, because of its linear, strong, have good sensitivity [2] and high accuracy for wide measurement range [3]. Generally, RTD elements are made from metal or alloy [4], both in coils and thin films. Materials that can be used as RTD elements are copper [5], [6], Platinum, and Nickel [2]. Economically, RTD elements can be made from copper and nickel material [7], because Platinum has a fairly expensive price.

Copper is good candidate element as a platinum replacement RTD element to measure very low temperatures because it has good linear properties in response [8]. A copper also has a high Thermal Contact Resistance (TCR). This coefficient determines the sensitivity of the copper but is still lower than the platinum. The greater change in the copper resistivity of each temperature is more sensitive. The presence of impurities increased the resistivity of the copper. The magnitude of copper resistivity depends on the type of impurities and its contents [9]. Besides that, the way that can be done to increase the resistivity is made copper in a thin layer [10]. One of the materials that can be used as an impurity on copper is Nickel [11]. Mixing Nickel and copper can reduce the purity and increase the resistivity of copper itself.

To produce a thin layer, there are several methods that can be used for the nickel plating

process in copper, such as electroplating method [12]. Electroplating methods have several advantages: low process temperature, process conditions at ordinary atmospheric pressure, relatively inexpensive equipment, fast sediment rates, porosity in relatively low coatings and can produce multiple layers. In this method, two factors that determine the success of the thin layer manufacturing are electric current density and electroplating duration [12] - [14]. According to the considerations above, this research will characterize the resistivity of the Cu/Ni thin films using electroplating method.

2. Method

The sample was made using a combination of current density and the length of a deposition process. Current density used is 0.2 A/cm², 0.4 A/cm², and 0.6 A/cm² respectively. While the variation of deposition time is 1 minute, 2 minutes, 3 minutes and 4 minutes. All variations of the deposition were carried out at room temperature ($\pm 26^\circ\text{C}$). The thickness of the layers of each sample is determined before the characterization of its electrical properties. To determine the thickness of the formed layer was used the Lowenheim equation [14]. The Lowenheim equation is as follows:

$$\delta = \frac{w}{\rho A} \quad (1)$$

Where:

δ = layer thickness (cm)

$w = m_1 - m_2$ = mass of layer (g)

ρ = metal density (g/cm³)

A = surface area of layer after coating process (cm^2)

Mass of layer was measured before and after the coating process repeatedly. The density of nickel is 8.908 kg/m^3 with the cross-sectional area of 5.5 cm^2 . Characterization of electrical properties of the Cu/Ni thin film through resistivity is performed using four point-probe method. As the name implies, the working principle of the measuring device is based on the presence of 4 probes, with 2 probes functioning to carry out an electric current and 2 other probes used to measure electrical voltage, the probes are touched on the sample of material. The resistivity value of the Cu/Ni thin film determined by using the linear regression equation as follows:

$$V = R_s \frac{\ln 2}{\pi} I \quad (2)$$

3. Results

Test layer thickness

Electroplating is one of the methods which used to create a thin film based on the direct electric current movement through an electrolyte solution. Determination of Ni layer thickness that formed on Cu substrate through electroplating process is using indirect measurement that calculates substrate mass difference before and after the coating process. This mass difference is the mass of nickel overlaid on the copper (Cu) substrate. FIG. 1 is a regression result of each current density by varying coating time.

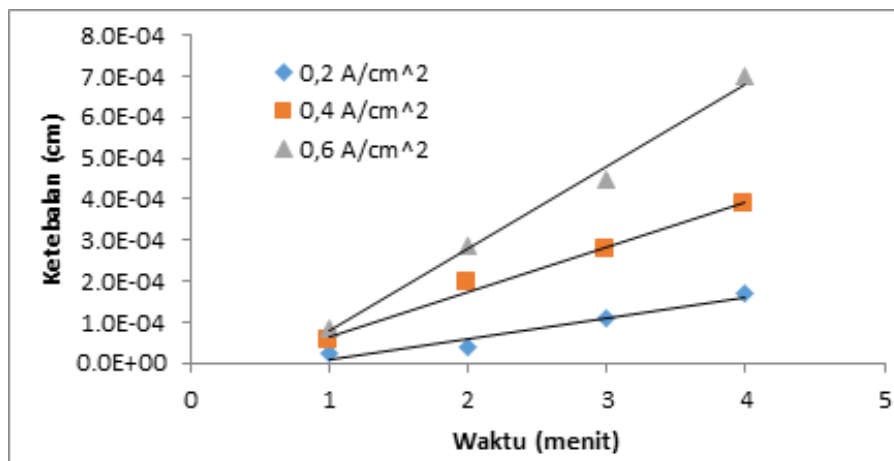


Figure 1. Graph of coating time relation to Cu / Ni layer thickness.

The graph provided that the longer of the coating process performed for each current density will produce a great thickness, this is due to the oxidation reaction on the nickel anode, so the nickel ions are attached to the cathode (Cu substrate). For each coating time, the thickness of the layer will increase as long as current density increases. This occurs because the reduction of the ions takes place more rapidly at larger current densities.

The relation between time and thickness mathematically is shown in Table 1. From the result of the regression performed that the nickel ions do not directly attach the cathode when the switch starts turn on. It is indicated by the appearance of intercept values on each curve. The use of 0.4 A/cm^2 current density has the relatively fastest attachment time and the current density of 0.2 A/cm^2 has the slowest attachment time. The starting time of this attachment can be seen from the ratio between intercept and slope on each regression.

Table 1. The linear equation between the coating time and the thickness of the Cu/Ni layer.

N o.	Current density (A/cm^2)	Linear equation	R^2
1.	0,2	$\delta = 0,00005t - 0,00004$	0,95555
2.	0,4	$\delta = 0,00011t - 0,00004$	0,98971
3.	0,6	$\delta = 0,00020t - 0,00012$	0,99313

Note : δ = thickness (cm)

t = time of coating (minute)

Although in Table 1 the use of current density of 0.6 A/cm^2 is much longer than the attachment of Ni ions but the rate of attachment is greater than other current densities, so that each sample for this current density has a greater thickness than the others. It is supported by the existing slope values. This is in line with the theory that at small current densities that the

reduction of Ni metal ions is slower [15]. The thickness value of the Cu/Ni thin film for each variation provide in table 2.

Table 2. Coating thickness at time variation

No.	Sampel (A/cm^2)	time (minute)	δ (cm)	S_δ (cm)
1	0,2	1	0,000022	0,000001
2		2	0,000041	0,000002
3		3	0,000108	0,000002
4		4	0,000168	0,000001
5	0,4	1	0,000053	0,000002
6		2	0,000194	0,000001
7		3	0,000275	0,000002
8		4	0,000389	0,000002
9	0,6	1	0,000084	0,000002
10		2	0,000287	0,000002
11		3	0,000449	0,000002
12		4	0,000700	0,000002

The variation of coating time at each current density value having a thickness value proportional to coating time. The largest thickness at 4 minute time variation is (0.000700 ± 0.000002) cm. The smallest thickness is obtained at a time variation of 1 minute, which is (0.000022 ± 0.00001) cm).

Test layer resistivity

Electrical resistivity is the basic parameter for classifying a metal whether as a

conductor, an insulator or a semiconductor. Cu metal used as a RTD element for low temperature sensors is expected having better sensitivity. In this study, to increase the sensitivity is done by reducing the level of purity of Cu, so it will impact on increasing the resistivity value. The coating time relation to the resistivity value of Cu/Ni pieces for each sample is presented in figure bellow.

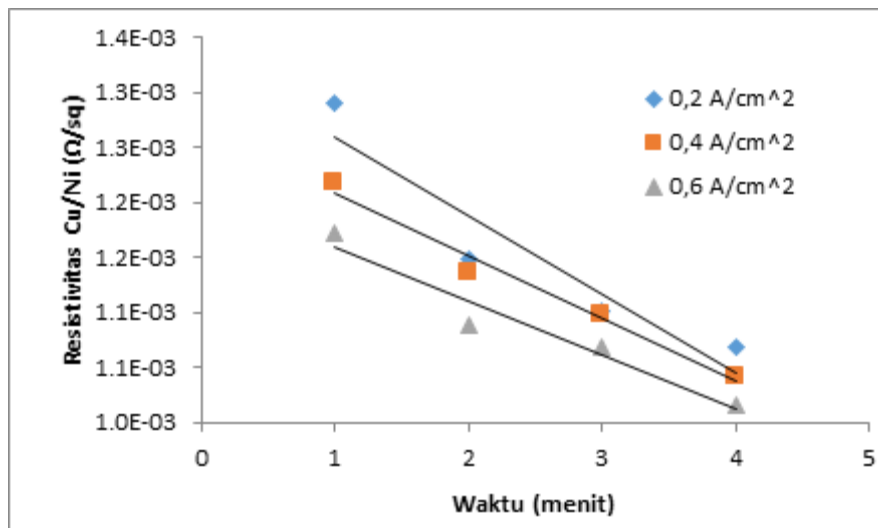


Figure2. Graph of coating relation between time of coating and resistivity value of Cu/Ni

The resistivity value is inversely proportional to the coating process time. This is an implication of the large thickness formed during the coating process. The smaller the thickness of a layer will lead to inhibition of electron flow so that the resistivity becomes more increase. From the current density point of view, the graph also shows that for each time the same

coating, the smaller of current density used to make a greater the resistivity value. Result of linear regression from data analysis obtained relations between coating time and resistivity value of Cu/Ni chip for each sample.

Table 3. Linear equations between coating time and Cu / Ni chip resistivity.

N o.	Current density(A/cm ²)	Linier equation	R ²
1.	0,2	$R_s = -0,00007t + 0,00133$	0,88448
2.	0,4	$R_s = -0,00006t + 0,00127$	0,97832
3.	0,6	$R_s = -0,00005t + 0,00121$	0,94655

Note: R_s = Resistivity strips of Cu/Ni
 t = time of coating

If the figure 2 is extrapolated at $t = 0$ minutes further on each regression result, it assumed that Cu substrate has not coating yet, the average Cu chip resistivity value of 0.001 Ω /sq. This value is close to the result of the analysis of Cu chip resistivity value before the coating process. To determine the increase of resistivity value, measuring of resistivity was done before and after coating process by using four point probes. The change of resistivity value of layer before and after coating process is presented in table 4

Table 4. Resistivity of thin film Cu/Ni

No.	Sampel (A/cm ²)	Time (minute)	$R_s \pm S_{R_s}$ (Ω /sq)	
			Before	After
1	0,2	1	$0,00115 \pm 0,00006$	$0,00129 \pm 0,00001$
2		2	$0,00114 \pm 0,00002$	$0,00115 \pm 0,00003$
3		3	$0,00109 \pm 0,00004$	$0,00110 \pm 0,00003$
4		4	$0,00104 \pm 0,00001$	$0,00107 \pm 0,00003$
5	0,4	1	$0,00109 \pm 0,00003$	$0,00122 \pm 0,00004$
6		2	$0,00113 \pm 0,00002$	$0,00114 \pm 0,00003$
7		3	$0,00108 \pm 0,00001$	$0,00110 \pm 0,00001$
8		4	$0,00103 \pm 0,00004$	$0,00104 \pm 0,00006$
9	0,6	1	$0,00115 \pm 0,00002$	$0,00117 \pm 0,00003$
10		2	$0,00107 \pm 0,00005$	$0,00109 \pm 0,00002$
11		3	$0,00103 \pm 0,00002$	$0,00107 \pm 0,00002$
12		4	$0,00093 \pm 0,00009$	$0,00102 \pm 0,00001$

For each sample of Cu/Ni, there is increasing resistivity value. The greatest resistivity was obtained for the smallest thickness of the sample with current density 0.2 A/cm² at one minute of coating.

4. Conclusion

Based on the data analysis, it can be concluded that the resistivity of the thin film Cu/Ni deposition by electroplating method for each variation of current density 0.2 A/cm²; 0.4 A/cm² and 0.6 A/cm² respectively follow the equation $R_s = -0,00007t + 0,00133$, $R_s = -0,00006t + 0,00127$ and $R_s = -0,00005t + 0,00121$.

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THE INFLUENCE OF USING MIND MAPPING TECHNIQUE IN TEACHING NARRATIVE TEXT TOWARD STUDENTS' READING COMPREHENSION

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Abstract

The objective of this research is to find out whether there is an influence on using mind mapping technique toward students' reading comprehension in narrative text at the eighth grade of SMPN 7 Kota Serang. The researcher conducted this research by applying quantitative approach with quasi experimental design. In this research, the populations were 335 students. The study was carried out in two classes; they are the control class and experimental class. The researcher used cluster sampling as a sample and the sample were 80 students. The data were gathered through tests which were delivered into pre-test and post-test. The result of the study showed that mind mapping technique is effective to use in teaching reading comprehension of narrative text. Average of post-test score of the experimental class (82.75) is higher than the control class (72.625). Based on the statistical using t-test analysis with the significant level 0.05 and the $df = 78$ showed the value of $t_{count} > t_{table} = 6.14 > 1.99$ which indicated that H_0 was rejected and H_a was accepted, so it indicated there was an influence of using mind mapping technique toward students' reading comprehension in narrative text at eighth grade of SMPN 7 Kota Serang. Based on the result above, mind mapping technique is effective to use in teaching reading narrative text for junior high school. So, teachers can apply this technique in teaching reading to make the students become more creative and their learning can be more fun.

Keywords: reading comprehension, narrative text, teaching reading, mind mapping technique, experimental design, quantitative approach

1. Introduction

Reading is one of the basic English skills which should be mastered by the students. In reading, the students must comprehend all the contents and also the information in the text clearly. Comprehending English is a difficult thing for students if they do not have basic knowledge, especially in comprehending reading text. The best way to become a better reader is by reading a lot. Best readers are people who love to read and who read often. In order to understand and learn many things, students must be able to comprehend what they read, so they know how to obtain information and apply concepts to their learning process. Brown (2004:185) argues that reading as the most essential skill for success in all education contexts.

Based on observation at SMPN 7 Kota Serang, minimal score criteria of English subject in this school is 76. Based on pre-research, the teacher stated that there were some students who got low score or did not achieve minimal score criteria in reading skill. Most of the students got score around 60-75. In this school, the students

still have difficulties in understanding the text well especially narrative text because they were not able to comprehend the text. They could not find the elements of the narrative text including main idea, supporting details, generic structure, and purpose in the text. Commonly the students are taught through the method that they are not interested like there is no media and the technique that used in teaching and learning process of reading comprehension. So, the students' reading comprehension achievements are low. This is because they did not know specific technique that can guide them to understand the text.

Based on the problem, it needs to create teaching and learning process that can facilitate students to learn English easily. The need of reading comprehension requires teachers to facilitate students through interesting technique in learning process. If reading came naturally, teaching would be a much easier task. The researcher gave a solution to the teacher by implementing mind mapping technique in teaching and learning process. According to Buzan (2002:82) mind mapping is a modern

learning tool and technique that arranges one's visual ideas and tries to interconnect them. Drawing mind mapping is an activity which makes the brain easier to accept and remember visually stimulating, multi-coloured mind maps, rather than monotonous, boring linear notes. The researcher considers that mind mapping can be an alternative technique for students when doing reading comprehension in achieving their academic success later. Mind Mapping was supposed to be an interesting alternative technique that helped the students to organize ideas about the text that have read by own scheme, so that students can comprehend the text easily. It is a good way to make the students understand more about what they read. This study focused on students' mind mapping in interpreting the text, not on their creativity.

Formulation of the problem: Is there an influence in using mind mapping technique toward students' reading comprehension in teaching narrative text?

2. Method

This research was conducted quantitatively through quasi-experimental design. Creswell (2009:149) stated that in quasi-experiment, the investigator uses control and experimental groups but does not randomly assign participants to groups (e.g., they may be intact groups available to the researcher). Quasi experimental design is implied to know the influence of using mind mapping technique to improve reading comprehension in narrative text. The researcher used this design because the researcher wanted to know the differences between experiment group and control group, is there any differences when the researcher gave post-test and pre-test to the groups. The design represented as follow:

Grou p	Prete st	Independent Variable	Postte st
E	Y ₁	X	Y ₂
C	Y ₁	-	Y ₂

E : experimental group
 C : control group
 Y₁ : the pretest given to the experimental group
 Y₂ : the posttest given to the experimental group
 Y₁ : the pretest given to the control group
 Y₂ : the posttest given to control group
 X : treatment at experimental group by using mind mapping technique in reading

comprehension narrative text to the students and shows students' result of the test

The table above presents both groups received pre-test (Y₁) and post-test (Y₂), but each groups received the different treatments (X). Mind mapping technique was administered as the treatments in the experimental group, while the control group was not given the treatment.

Arikunto (2002:111) stated that population is number of object that will be researched. The population of this research is the eighth grade students of SMPN 7 Kota Serang in 2015/2016 academic year. There are 8 classes at the eighth grade from class 8A until 8H and each class contain about 40-42 students. The total numbers of the students are 335 students.

Selecting of the sample is very important step in conducting a research study. Sukardi (2003:54) stated that the sample is any group of individual which is selected to represent a population. Sample is a part of representative of population investigated. The researcher has used the cluster sampling to choose the sample that is one of the types in probability sampling. According to Ary et al. (2010:154), cluster sampling is the unit chosen is not an individual but, rather, a group of individuals who are naturally together. The researcher mixed all population (class) to get the sample and two classes that have chosen from it are class 8E and 8D. Both classes have 40 students for each class, so the sample is 80 students. The groups which the researcher has chosen for the research are 8E as the experimental group and 8D as the control group.

There are two variables in this research, dependent and independent variable. Dependent variable is students' reading comprehension and independent variable is mind mapping technique. Students' reading comprehension is influenced by mind mapping technique.

The writer used test as the instruments. There are two kinds of test used to get the data through multiple choice questions:

1. Pre-test

At the first meeting, the researcher gave a pre-test to the students. It was conducted to know the students score in reading. This test was given in order to know how far the students ability in reading comprehension of narrative text. The pre-test comprised 20 items, in the form of multiple choices items.

2. Post-test

Post-test is to measure their ability after treatment process, this test was given to know the basic competence for 40 students and to know their earlier knowledge after they got treatment. It was done to know the final score and to know the students, difference competence before and after they got treatment. A post-test was given in order to know the scores of the students after they are taught by using mind-mapping technique. This test was used to measure the students' achievement after they were given treatment.

In this quantitative research, the writer used test for collecting data. The researcher collected the data from the students' score of pre-test and post-test. The researcher gave students pre-test to know the students' reading ability before the researcher gave treatment. Researcher gave post-test to the students after the researcher giving treatment. The result of pre-test and post-test and then the researcher compared them. There were 20 items of multiple choices in pre-test and post-test. The tests were given both to the experimental and controlled classes' students.

The data was gained through test (pre-test and post-test) and it was analyzed by using some formula as follows:

1. Test of Normality of the Distribution

Normality test used to know the distribution data normal or not. According to Sugiyono (2012:79) normality test is performed to determine whether the test data of students' written test in the experiment and control class are normally distributed or not. In this research used Chi-Square formula (Arikunto, 2002:153) as follows:

$$X^2 = \sum \frac{(fo - fe)^2}{fe}$$

Notes :

X^2 : The Chi-Square

fo : The frequency that is observed

fh : The frequency that is hope

Testing criteria (significance level = 5 % and degrees of freedom df (n-1):

If $X^2 \text{ count} \geq X^2 \text{table}$ it indicates the distribution of data is not normal.

If $X^2 \text{ count} \leq X^2 \text{table}$ it indicates the distribution of data is normal.

2. Test of Homogeneity

Riduwan (2012:184) said that homogeneity test is performed to determine whether the data obtained from a homogeneous population or not. In this

research, to test the homogeneity used this following formula:

$$F = \frac{\text{Variance Greatest}}{\text{Variance Smallest}}$$

Compare the value of F_{count} and F_{table} then specified whether homogenous or not homogenous with the following criteria (significance level = 5 % and $df_1 = v_1 - 1$ $df_2 = v_2 - 1$) :

If $F_{\text{count}} \leq F_{\text{table}}$: Hence the data homogeneous

If $F_{\text{count}} \geq F_{\text{table}}$: Hence the data not homogenous

3. T-test Analysis

To determine whether the hypothesis is accepted or rejected, by comparing t-count with t-table, the calculation used T-test. T-test was used to measure whether or not differences on students' average score between two variables by take a look at the average score of two samples. In this research, the researcher used t-test. T-test is done by some following steps:

Step 1 : Stating the hypothesis

H_0 : there is no influence of using mind mapping technique toward students' reading comprehension in narrative text at eighth grade of SMPN 7 Kota Serang.

H_a : there is influence of using mind mapping technique toward students' reading comprehension in narrative text at eighth grade of SMPN 7 Kota Serang.

Step 2 : finding $t_{\text{test-count}}$ value

$t_{\text{test-count}}$ was calculated by t-test used the formulas follows :

$$T_{xy} = \frac{M_x - M_y}{\sqrt{\left\{ \frac{\sum x^2 + \sum y^2}{N_x + N_y - 2} \right\} \left\{ \frac{1}{N_x} + \frac{1}{N_y} \right\}}}$$

t = T-Test

M_x = mean of deviation of experimental group

M_y = mean of deviation of control group

$\sum x^2$ = sum of squared deviation of experimental group

$\sum y^2$ = sum of squared deviation of control group

N_x = subject of experimental class

N_y = subject of control class

Step 3 : finding the value of $t_{\text{test table}}$ with $df = (N_x + N_y - 2)$ with $\alpha = 0,05$

Step 4 : criteria testing

If $t_{\text{test count}} \geq t_{\text{test table}}$, H_0 is refused, it means that alternative hypothesis is accepted.

If $t_{\text{test count}} \leq t_{\text{test table}}$, H_0 is accepted, it means that alternative hypothesis is refused.

3. Results

3.1 The Result of Pre-test

Pre-test was conducted in experimental class that is 8E and control class that is 8D. The pre-test of experimental class was conducted on Tuesday, March 22nd, 2016 showed that the minimum score is 45 and the maximum score is 80. The test aimed to measure students' reading comprehension in narrative text before they got treatment by using mind mapping technique. From this test

most of the students still found difficulties to understand the text which was given by the researcher. The students got difficulties to comprehend reading in narrative text. It could be seen from the average of data which is 67.5. However they tried to give their best answer of the test given. Afterwards, the pre-test of control class conducted on Monday, March 21st, 2016 showed that the minimum score is 40 and the maximum score is 75. The students in control class got difficulties as same as experimental class on answering the test. They got difficulties when they comprehended and answered reading in narrative text. It could be seen from the average of score which is 64.375. The result of students' pre-test scores in experimental and control class can be seen at below table.

Table 1. Pre-test score

Control Class' Pre-test score			Experimental Class' Pre-test Score		
No	Name	Score	No	Name	Score
1	AF	65	1	AF	50
2	ALN	60	2	AM	75
3	ALP	60	3	AS	75
4	ALD	60	4	ASE	60
5	ARP	75	5	BRF	75
6	ARPI	75	6	CA	70
7	ASM	75	7	EN	70
8	DS	70	8	FAD	75
9	ELM	70	9	FAH	45
10	ELS	75	10	FAP	60
11	FA	65	11	FAZ	75
12	GB	60	12	FC	60
13	GS	65	13	JA	70
14	GT	60	14	KH	75
15	KA	50	15	MF	70
16	LS	65	16	MR	70
17	MG	70	17	MU	65
18	MW	70	18	MUF	70
19	MUA	75	19	MUHS	70
20	MUH	70	20	MUP	80
21	MUR	70	21	MUSN	60
22	MURA	65	22	NA	65
23	MUS	60	23	OW	70
24	RH	55	24	PA	60
25	RI	75	25	PAS	75
26	RIR	50	26	PP	60
27	RIT	40	27	RAY	75
28	RON	40	28	RDP	80
29	ROS	60	29	RIF	55
30	SA	55	30	RIR	70
31	SIS	70	31	RIZ	65
32	SIN	55	32	RO	60
33	SYA	60	33	SA	75
34	TEM	75	34	SU	75
35	TIA	75	35	VG	60
36	TRI	75	36	WN	75
37	UHA	55	37	YA	65
38	UYA	70	38	YUL	70
39	VR	75	39	YWP	65
40	ZI	60	40	ZM	60
Total		2575	Total		2700
Mean		64,375	Mean		67,5
Max score		75	Max score		80
Min score		40	Min score		45

3.2 The Result of Post-test

The post-test of experimental class was conducted on Tuesday, April 5th, 2016. In the post-test, the result showed that the minimum

score is 70 and the maximum score is 95. The data showed that there are increasing of the minimum score, 45 to 70 and the highest score 80 to 95.

Table 2. Post-test score

Control Class' Post-test score			Experimental Class' Post-test Score		
No	Name	Score	No	Name	Score
1	AF	70	1	AF	70
2	ALN	70	2	AM	90
3	ALP	65	3	AS	80
4	ALD	70	4	ASE	80
5	ARP	80	5	BRF	90
6	ARPI	85	6	CA	85
7	ASM	80	7	EN	85
8	DS	80	8	FAD	85
9	ELM	75	9	FAH	70
10	ELS	80	10	FAP	75
11	FA	75	11	FAZ	85
12	GB	75	12	FC	75
13	GS	70	13	JA	80
14	GT	75	14	KH	95
15	KA	75	15	MF	80
16	LS	80	16	MR	85
17	MG	75	17	MU	75
18	MW	80	18	MUF	80
19	MUA	80	19	MUHS	85
20	MUH	75	20	MUP	95
21	MUR	85	21	MUSN	75
22	MURA	70	22	NA	80
23	MUS	65	23	OW	90
24	RH	70	24	PA	80
25	RI	80	25	PAS	95
26	RIR	60	26	PP	85
27	RIT	60	27	RAY	90
28	RON	50	28	RDP	95
29	ROS	65	29	RIF	75
30	SA	65	30	RIR	90
31	SIS	75	31	RIZ	75
32	SIN	60	32	RO	80
33	SYA	65	33	SA	80
34	TEM	80	34	SU	85
35	TIA	85	35	VG	75
36	TRI	70	36	WN	85
37	UHA	65	37	YA	80
38	UYA	70	38	YUL	85
39	VR	80	39	YWP	85
40	ZI	70	40	ZM	80
Total		2905	Total		3310
Mean		72,625	Mean		82,75
Max score		85	Max score		95
Min score		50	Min score		70

The post-test aimed to measure the students' reading comprehension in narrative text after they got treatment by using mind mapping

technique. Based on the data, student's reading comprehension in narrative text increased. It can be seen from the different score of pre-test and

post-test. Moreover, the average also increased from 67.5 to 82.75.

The post-test of control class was conducted on Monday, April 4th, 2016. The result showed that the minimum score is 50 and the maximum score is 85. The aimed of post-test in control class, such in experimental class, to measure the students' reading comprehension in narrative text after they learned the material by using technique which the teacher usually use in the class. Based on the data, it showed that the experimental class had the higher score than the control class. The data could draw the influence of using mind mapping technique on students' reading comprehension. In the post test, students were

more confidence in answering the test. It showed from their result also in the post test is higher than the pre test. The result of students' post-test scores in experimental and control class can be seen at below table.

3.3 The Result of Normality Distribution

To test the normality of test, *Chi-Square* formula was used by researcher to process the normality test. If the X^2_{count} is lower than X^2_{table} ($X^2_{\text{count}} \leq X^2_{\text{table}}$), the data distribution was normal. The table below showed the result of *chi-square* calculation.

Table 3. Normality Test of Pre-test in Control Class

Class Interval	Fo	Fe	Fo - Fe	(Fo - Fe) ²	$\frac{(Fo - Fe)^2}{Fe}$
40-45	2	-0,6	2,6	6,76	-11,267
46-51	2	-2,28	4,28	18,3184	-8,034
52-57	4	-5,72	9,72	94,4784	-16,517
58-63	9	-9,36	18,36	337,089	-36,014
64-69	5	-10,28	15,28	233,478	-22,712
70-75	18	-7,12	25,12	631,014	-88,626
	40				-183,170

Significance 5% = 11.070

If $X^2 > X_{\text{table}}$ = The data distribution is not normal

If $X^2 < X_{\text{table}}$ = The data distribution is normal

Then, $-183.170 < 11.070$ = The data was normally distributed

Table 4. Normality Test of Post -test in Control Class

Class Interval	Fo	Fe	Fo - Fe	(Fo - Fe) ²	$\frac{(Fo - Fe)^2}{Fe}$
50 - 55	1	-0.616	1.616	2.61146	-4.2394
56 - 61	3	-2.516	5.516	30.4263	-12.093
62 - 67	6	-6.572	12.572	158.055	-24.05
68 - 73	9	-10.516	19.516	380.874	-36.219
74 - 79	8	-10.248	18.248	332.99	-32.493
80 - 85	13	-6.376	19.376	375.429	-58.882
	40				-167.98

Significance 5% = 11.070

If $X^2 > X_{\text{table}}$ = The data distribution is not normal

If $X^2 < X_{\text{table}}$ = The data distribution is normal

Then, $-167.98 < 11.070$ = The data was normally distributed

Table 5. Normality Test of Pre -test in Experimental Class

Class Interval	Fo	Fe	Fo - Fe	(Fo - Fe) ²	$\frac{(Fo - Fe)^2}{Fe}$
45 - 50	2	-0.712	2.712	7.35	-10.33
51 - 56	1	-2.692	3.692	13.63	-5.06
57 - 62	9	-6.644	15.644	244.73	-36.84
63 - 68	5	-10.136	15.136	229.10	-22.60
69 - 74	10	-10	20	400	-40
75 - 80	13	-6.328	19.328	373.57	-59.03
	40				-173.87

Significance 5% = 11.070

If $X^2 > X_{table}$ = The data distribution is not normal

If $X^2 < X_{table}$ = The data distribution is normal

Then, -173.87 < 11.070 = The data was normally distributed

Table 6. Normality Test of Post -test in Experimental Class

Class Interval	Fo	Fe	Fo - Fe	(Fo - Fe) ²	$\frac{(Fo - Fe)^2}{Fe}$
70 - 74	2	-2.068	4.068	16.5486	-8.0022
75 - 79	7	-6.188	13.188	173.923	-28.107
80 - 84	11	-10.652	21.652	468.809	-44.011
85 - 89	11	-11.084	22.084	487.703	-44.001
90 - 94	5	-6.672	11.672	136.236	-20.419
95 - 99	4	-2.328	6.328	40.0436	-17.201
	40			1323.26	-161.74

Significance 5% = 11.070

If $X^2 > X_{table}$ = The data distribution is not normal

If $X^2 < X_{table}$ = The data distribution is normal

Then, -161.74 < 11.070 = The data was normally distributed

Therefore, it can be concluded that the data distribution of pre-test and post-test from both groups was normal.

3.4 The Result of Homogeneity Variances

The scores were taken from the eighth grade students of SMPN 7 Kota Serang. Total variances from the students' scores were calculated to be compared. The result of homogeneity test was obtained by comparing the value of the highest variance and the lowest variance with the significance level 0.05 for dk = 78 in $F_{table} = 1.70$. The significance value data calculated from both of class.

Sample Homogeneity of Pre-Test

$$S_C = \frac{\sum X_c^2 - \frac{(\sum X_c)^2}{n}}{n} = \frac{169275 - \frac{(2575)^2}{40}}{40} = \frac{169275 - 165765.625}{40} = \frac{3509.375}{40} = 87.73 \text{ (Biggest Variance)}$$

$$S_E = \frac{\sum X_e^2 - \frac{(\sum X_e)^2}{n}}{n} = \frac{184750 - \frac{(2700)^2}{40}}{40} = \frac{184750 - 182250}{40} = \frac{2500}{40} = 62.5 \text{ (Smallest Variance)}$$

$$F_{count} = \frac{\text{Biggest Variance}}{\text{Smallest Variance}} = \frac{87.73}{62.5} = 1.40$$

$$F_{count} < F_{table} \text{ or } 1.40 < 1.70$$

So, the sample were homogenous
Sample Homogeneity of Pre-Test

$$\begin{aligned}
 S_C &= \frac{\sum X_c^2 - \frac{(\sum X_c)^2}{n}}{n} = \frac{213425 - \frac{(2905)^2}{40}}{40} = \\
 &= \frac{213425 - 210975.625}{40} = \frac{2449.375}{40} = 61.23 \text{ (Biggest Variance)} \\
 S_E &= \frac{\sum X_e^2 - \frac{(\sum X_e)^2}{n}}{n} = \frac{275650 - \frac{(3310)^2}{40}}{40} = \\
 &= \frac{275650 - 273902.5}{40} = \frac{1747.5}{40} = 43.69 \text{ (Smallest Variance)} \\
 F_{\text{count}} &= \frac{\text{Biggest Variance}}{\text{Smallest Variance}} = \frac{61.23}{43.69} = 1.40 \\
 F_{\text{count}} &< F_{\text{table}} \text{ or } 1.40 < 1.70 \\
 \text{Pre-test} &: F_{\text{count}} < F_{\text{table}} \text{ or } 1.40 < 1.70 \\
 \text{Post-test} &: F_{\text{count}} < F_{\text{table}} \text{ or } 1.40 < 1.70
 \end{aligned}$$

As the conclusion, the varians of those of those two classes were homogenous because the calculation of F_{count} is lower than F_{table} .

3.5 The Result of T-Test Analysis

To know the influence of using mind mapping technique toward students' reading comprehension in narrative text, t-test was used to calculate the result of pre-test and post-test. After that, the mean and standard deviation of control and experimental class scores were gained, they were put into t-test formula to test the hypothesis. The calculation as follow:

$$\begin{aligned}
 T_{xy} &= \frac{M_x - M_y}{\sqrt{\frac{\sum x^2 + \sum y^2}{N_x + N_y - 2} \left\{ \frac{1}{N_x} + \frac{1}{N_y} \right\}}} \quad T_{xy} = \\
 &= \frac{15.25 - 8.25}{\sqrt{\left\{ \frac{897.5 + 1127.5}{40 + 40 - 2} \right\} \left\{ \frac{1}{40} + \frac{1}{40} \right\}}} \\
 &= \frac{7}{\sqrt{\left\{ \frac{2025}{78} \right\} \left\{ \frac{2}{40} \right\}}} = \frac{7}{\sqrt{\{25.96\} \{0.05\}}} = \frac{7}{\sqrt{1.298}} = \frac{7}{1.14} =
 \end{aligned}$$

6.14

After getting the T_{count} , it will be compared to T_{table} .

The t-test result was 6.14 it was higher than t_{table} 1.99 with $df(40+40-2) = 78$ and significance 0.05. $T_{\text{count}} > T_{\text{table}} = 6.14 > 1.99$ it means that $t_{\text{count}} > t_{\text{table}}$.

Based on the data above, the null hypothesis (H_0) that there is no influence using mind mapping technique on students' reading comprehension in narrative text was rejected. And the alternative hypothesis (H_a) that there is an influence using mind mapping technique on students' reading comprehension in narrative text was accepted.

4. Discussion

In the experimental class, the researcher took class 8E as experiment class. In the first meeting, the researcher gave pre-test to measure the students' reading comprehension before they got the treatment by using mind mapping technique. It used for about 40 minutes. It was hold on March 29th, 2016. After that, the researcher gave the material how to apply mind mapping technique on narrative text to improve their reading comprehension. The students must apply mind mapping technique to comprehend the text. The second meeting, the researcher gave the same treatment held on April 1st, 2016. The material was narrative text too, but had different text with the first treatment. In this activity, the students apply mind mapping technique. Mind mapping technique could make the students more interested and understand well in teaching learning especially in learning reading comprehension narrative text. Mind mapping is an important technique that improves the way to record information, support and enhances students' creative problem solving. It can be said that mind mapping is one of the essential or important technique to improve student's creativity to solve problem, especially to conduct their reading comprehension (Buzan, 2005:4). Mind mapping is a diagram used to represent words, ideas, tasks, or other items linked to and around a central key word or idea. It can be seen in the treatment process, the students are more interested and they felt enthusiast in learning reading comprehension narrative text. The students become cooperative and responsible in learning reading. By using mind mapping technique, the learners can summarize the story in the form of map. It can help the learners to comprehend the story. And the last meeting on April 5th, 2016 the researcher gave the post-test to know if there was an influence on their reading comprehension after learned by mind mapping technique. On the post-test the researcher gave multiple choices test and it still about narrative text.

In control class, the researcher took class 8D as control class. The first meeting on March 23th, 2016 the researcher gave teaching and learning process to the students about the elements of narrative text. The second meeting on March 28th, 2016 the researcher gave treatment using lecturing and discussion. The teaching and learning process using lecturing and discussion has some steps, they are: each groups are given one of narrative text copies, the students read and find the generic structure of the text, answer some questions from the text and

discusses the text together with the students and teacher. And the last meeting on April 4th, 2016 the researcher gave post-test after they got teaching and learning process using lecturing and discussion.

From the research finding, it was known that t_{count} was higher than t_{table} and the alternative hypothesis (H_a) was accepted, while the null hypothesis (H_0) was rejected. It means that there was any significant different score of the reading comprehension of the eighth grade students of SMPN 7 Kota Serang before and after being taught using mind mapping technique.

Mind mapping technique was very useful in teaching reading comprehension narrative text because the students made mind mapping and could memorize what they read easily. Finally, the researcher concluded that mind mapping technique had influence the students' reading comprehension in narrative text. So, there was influence of using mind mapping technique toward students' reading comprehension in narrative text at the seventh grades of SMPN 7 Kota Serang.

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COMPUTER- BASED NATIONAL EXAMINATION: INVESTIGATING ITS EFFECTS TO THE STUDENTS

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Abstract

This paper is aimed to investigate the effects of computer- based national examination to the students. The methodology used is quantitative method with descriptive analysis to explain the result of the study. The researcher had collected the data by questionnaire and interview to the students of ninth grade of SMP N 2 Panggang. The respondent of this research is the ninth grader of SMP 2 Panggang. The study results show that computer- based national examination affects the students' preparation, students' feelings and teaching focus and parents' involvement. It increase the students' preparation for the test. whereas for the students' feeling it covers the students' unfamiliarity of the computer- based test, technical problem that may happen in the computer- based test, the examination session and the students' readiness. Whereas for the teaching focus and parents' involvement, most students do not have any objection to the situations since they feel that it helps them to face the examination. This highlighted issues are decreasing students' anxiety and worry by guarantee the examination process and providing adequate number of computer so the students do not need to have second or third session. To sum up, the researcher reveals that the computer- based national examination is need to be applied all over Indonesia since it increases the quality of national examination and thus the quality of the test takers.

Key words : computer- based, national examination, high- stake testing

1. Introduction

Technology has been widely used in educational area. It is used in the teaching learning process to improve the quality of the teaching learning result. It can be seen in the use of movie, television, computer, application, internet and many other things that made the students interested to participate in the class. Class that merely contains white board and marker is so yesterday and regarded as the boring one.

The use of technology in the teaching process is gradually takes bigger portion as the development of information and communication technology. The learning process using information and communication is widely known as e- learning. Reference [10] defines e- learning as a learning process that done through the use of technology or internet to be specific or computer-based learning.

The use of internet in the teaching and learning process surely make differences. The students are more interested since the learning material is delivered in a more attractive way. Reference [1] states that it also changes the learning process which used to be merely in the

classroom to everywhere, from cycle time to real time, from paper to online, and from the physical facilities to the web.

Recently, technology is used in not only in the teaching learning process, but also in the assesment. Starting on 2014, Indonesia government decides to held the national examination through online process. It is caused by the weaknesses of the paper- based national examination. The weaknesses of paper- based national examination come from many factor such as the high cost to held the exam, the security of the paper, the leakage of the answer key and many other that triggerred the need to use more advanced method.

Considering those weaknesses, Indonesia students of the twelft grade in 2014 had the first computer based national. From the year on, not only the twelfth grader, but also the ninth grader that have computer- based national examination.

Reference [11] states the benefits of computer- based national examination are the saving of printing costs, the security of the script, and the facilitation to distribute the exam materials. Moreover, computer- based national examination also give easiness in reaching the entire area and scoring process. It also gives possibility to know the examination's score at the

end of the test completion. It is also possible to print the certificate of test completion right after the test.

Yet, there are also barriers of conducting the computer- based national examination that caused by the condition of the test that largely depend to the technical problem. The barriers of implementing the model include the wide area or vast territory, computer hardwares, internet facilities, and the support of stakeholders.

Although, computer- based national examination can be said as the answer of the paper- based national examination, still there are some weaknesses of computer- based national examination. The weaknesses include the stability of the internet connection, the electricity supply and students' readiness.

Thus, the researcher are interested in investigating the effect of the new technology to the students.

Computer- Based National Examination

National examination is the test that seen as the most important high- stake tests. Thus it tends to influence the students, the teachers and the parents psychologically. It is caused by their perspective that this examination will influence their future. Most of the teachers investigated admitted that the test aroused their anxiety and fear of the test results. This was caused by the assumption that the test results will reflect their competence as a teacher. Most students reported that the test increases their anxiety of getting low score.

The level of students' ability determine the level of anxiety, weaker and average students are significantly more adversely affected by the potential failure in the test than the higher level students are.

Beside the negative influences, high- stake tests also make teachers and parents pay more attention to the students and children especially those with learning problem. Students also increase their intensity in learning. This might be seen as positive but since the increased attention and involvement of the teachers, parents and students may also lead to negative effects as indicated by these following studies. Reference [9] states that if a test regarded important, if the stakes are high, preparation for it can dominate all the teaching learning process. Moreover in Indonesia, national examination is a high stake test with a decisive contribution to the total final

scores or national examination that determine the students' graduation from secondary schools.

The use of computer for national examination has been since years ago by the Education Assessment Centre/ Pusat Penelitian Pendidikan. In the beginning the used model is CAT (Computer- Assisted Test) which is a model that allow direct interaction to the provided computer in the test number and test takers are tested suited to their abilities. The test will be stopped if the test takers answer a number of test items with certain difficulty level. Based on the difficulty level of the test items that answered correctly and incorrectly, the computer automatically estimates the test takers' maximum abilities. CAT result is decided by the test taker's estimated ability based on the taken test. This model has been tried out in 2008. It was considered to be a good model since each test taker was tested in the same difficulty level because the test was continue going on until the maximum ability was reached.

CAT model also was considered to be efficient since it did not need too many number of test items because the computer- based examination automatically gave test items that suited to the test taker's ability. It is different with the old method which is paper- based test that needs a lot of test items. Yet, considered its very complicated test items development process that is based on item response theory, calibrated test items that are suited the test takers' abilities while almost all schools still used paper- based examination. So, CAT can not be applied recently, but still use the computer- based test that is now called as computer- based national examination.

In the computer- based national examination, the test takers have direct interaction with the computers which provide test items of the tested course. The test takers answer test items as in paper- based examination but in the form of computer. The number of test items are provided as paper- based examination and test items characteristics are ignored.

To support the computer- based national examination, there are two preparations needed namely the hardware preparation and software preparation. The hardware preparation includes the providing of computer, internet connection,

and local computer web. It is done by the school and or Education Board of the province. To avoid of high cost assumption, it is advised to take the hardware preparation as not a mere examination equipments but also the learning process supporting equipments. The needed computer is one computer for one test taker. In the practice, one computer can be used three times by three different test takers in the same day. Besides computer, the school also need to provide internet with local web.

Another preparation which is software preparation is provided by the Education Assesment Centre (Puspendik). This software preparation includes computer software and examination software. Computer- based national examination is developed in the purpose that the computer can provide the test item regularly during the test for each test taker. Examination software provide a group of test items that has the test item characteristics. The examination may end when the time is up or the test takers have finished the examination.

In the examination, that software is connected to the local web in the school. This local web connects one computer to the other so that there is only one center for the national examination or server for each school. The computer- based national examination is held in group with a decided time allotment. There are three sessions in one day examination so that one computer can be used by three test takers.

The computer- based national examination is started when the test takers come into the examination room. The test takers fill in their identity in their computer then complete the user identity and password. If the user identity and password are correct, the identity of test taker's page will be displayed. It also displays the course, time allotment and general direction. The next step is activate the token. Token is a code to access the test items and test time. If there are any obstacle in the computer activation, there will be a staff that will help the test takers.

In the computer- based national examination, the test takers have to do the test items without consideration of item difficulty and test taker's ability as in the computer-assisted test (CAT). The test takers are asked to choose the most appropriate answer so that the

test taker do not need to worry in blackened the answer as in paper- based test. This decrease the test taker's worry that they might not blackened the answer properly while they still be able to do and re- check their answer as long as the time is not over yet.

Computer- based national examination is held offline to manage any obstacle locally. The test material in the software prepared for each school is the same for one province. The test material is divided into three zone which east Indonesia, central Indonesia, and west Indonesia.

There is one technician for each school and two staffs in the examination room which are proctor and supervisor. Proctor is responsible to guarantee all computers can be used to do the examination, whereas technician has to make sure the provided hardware is well functioned. The supervisor's role is to supervise the examination process

Effects of high stake testing

National examination as one of bases to determine students' graduation has always became a controversy. In 2003 and forth, it became the main aspect of the graduation. Starting 2007, the asesment for the graduation changes following the protest that three years learning process should not be counted in three/ four days examination. Even in the recent time there are also some aspects in deciding students' graduation, national examination still considered to be very important and have big effects to the future. Thus, national examination is regarded as high- stake testing.

As referennce [6] and [13] said that stake that always followed a test caused positive and negative effects. Studies on the the effects of high- stake test such as national examination can be found under the term "washback" which in this study is defined as the effects of the national examination to the students of having the computer national examination.

There are many previous researchs that reveal the effects, then will be called as washback, of high- stake test may be either positive or negative. These researchs are done in China (Qi, 2005), Taiwan (Chen, 2002), and USA (Stecher, Chun, &Baron, 2004). Those

researchs reveal the various washback of high-stake testing.

Some of positive washback of high- stake test are the increasing of teachers' attention to the students especially to those who have learning problem and higher involvement of parents' participation in the examination preparation. Inspite of the positive washback, high stake test may result in different aspects. The first is the refocus of teaching activities which will have domino effects to the teaching allotment. More time is devoted for the computer- based national examination than by spending more time to teach the tested subjects. Reference [14] also shows that more curriculum is spent on on exam classes than in regular ones, this reallocation of time is done at the expense of non- tested subjects , resulting in the sort of washback labelling as narrowing the curriculum or narrowing the scope and the content of teaching and learning (Reference [13]).

Changes in the content of teaching happen only superficially instead of beinng directed substantially to meet the achievement standards based on which a high- stake test is onstructed. It is superficial in that teachers only teach the parts that the student will meet in a test. For example,

Not only the changes of teaching, the negative washback of high- stake testing also found in the students' anxiety. Anxiety itself has two effects. Medium level anxiety may result in increasing learning achievement. On the other hand, high- level anxiety unfortunately may result in decreasing students' learning achievement.

In the Indonesia context, reference [8] investigates the washback of paper- baased national examination to the teachers. the research reveals that the washback are shown in four aspects namely teaching focus, material, time allocation, and learning activities. Teachers prefer to have TOS (table of specification) of national examination to be their teaching focus. The increased focus was given only to reading and listening skill. This condition indicates teacher's tendency to teach and narrow the curriculum. Whereas for the teaching material, the teacher prefers to use national examination-like material. As national examination is considered as a high stake test, more time of the

teaching process is allocated increasingly to the nationally tested subjects. Whereas for the dominant learning activity is drilling for the national examination.

2. Method

This reseach is a descriptive quantitative research. Using micro approach, this research highlights the effects of computer- based national examination.

The population of the study is ninth grade students of SMP N 2 Panggang,the school is chosen since it is one of rural area that is wished to be able to describe most schools in Indonesia that are not in the city. The total students is 104 students. all students in the ninth grade is taken as the respondent.

The data of the research is taken by questionnaire and interview. The questionnaire consists of 30 items which is in Likert scale. Score for each item is classified as:

Strongly agree	: 5
Agree	: 4
Neutral	: 3
Disgree	: 2
Strongly disagree	: 1

In analyzing the questionnaire result, the researcher use percentage and then describe the percentage to reveal the researh result. Whereas for the interciuew, the researcher uses semi-structured interview. The interview eewsult is used to complete the descrption of the questionnaire result.

3. Results

Students' Preparation

Most of the students feel that they are ready to do the computer- based national examination. The multiple simulations held by the school are considered helpful by the students in preparing for the national examination. Only, 30% of the students are not ready to do the examination. It is caused by both the lackness of the understanding the material and the use of computer. They are afraid of the internet connection instability and electricity. Log in and log out that must be done by the students themselves increase their worry that they might spend too much times in the log in.

Students' Feelings

The dominant feeling of the students are worry and anxious. There are four highlighted cause of this condition. Those as follows.

1) Unfamiliarity of the computer

Most of them do not have computer in their home and their computer use frequency is low. The students lack of having contact with computer outside the school.

2) Technical problem

It turns out that internet connection and electricity is not merely the examination committee concern. The students also concern about those problem. They are worried if they have to redo the examination for some error. They are fear of blackout that may disturb the run of computer-based national examination.

3) Examination session

The time of doing the examination also influence the feeling. Most of the students who have the first session feel ready for the test, but the students that have the second and third session say that they have objection since they think having examination in the noon is more tiring than the morning session.

4) Students' readiness

Students' readiness consist of material readiness and test readiness. Most of students are ready for the material since they realize that computer-based national examination allows no leakage for the examination and any cheating in the examination process. The students study harder and have more frequent exercise of the examination.

Whereas for the test readiness, there is lower percentage of students who state their readiness, yet the percentage of ready students is still high. The higher percentage of students who state that they are not ready for the test is mostly of their nervous of having a computer-based test although they already did some simulations before the examination.

Teaching Focus and Parents' Involvement

It has been widely known and is proven in some researchs that having national examination also depress the teacher. The teaching process unconsciously became mere examination preparation. This condition has two effects to the

students. Eighty three percent students agree with the condition since they feel more ready to face the test because of dominant test preparation. On the other hand, the rest feels that teaching focus on test preparation is exhausting. Thus, the teaching focus of facing the test increases their anxiety of facing the test. Whereas for the parents' involvement ninety four percent think that it is good for them since family support is needed in facing crucial time of their school life.

4. Discussion

Analyzing the effect (washback) of the computer-based national examination, the researcher finds that computer-based national examination brings many positive effects to the students. The use of computer and internet arouse their proudness as today's generation which close to the newest technology.

The smaller chance of cheating also motivate them to study harder since they realize it is almost impossible for them to get the correct answer since they do not know whether they have the same paper code.

Yet the most highlighted cause of the negative effect is the students' discomfort of having the second or third session. They said that having the second and third session lower their energy. They feel less energetic compared than those who have first session.

To sum up, the researcher reveals that the computer-based national examination is need to be applied all over Indonesia since it increases the quality of national examination and thus the quality of the test takers.

To minimize the negative washback, the school have to guarantee the stability of the internet connection and electricity. It is also important to have adequate computers for all the students so they do not need to have different sessions which affect their feeling in having test.

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BIPA LEARNING AS A GRADUATE PROFILE OF LEARNING AND ACHIEVEMENT OF EDUCATION STUDY PROGRAM IN INDONESIAN LANGUAGE PGRI STKIP SUMBAR

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Abstract

In its development, the Indonesian language now provides a significant contribution to the Indonesian nation. This is evidenced by the growing interest of foreigners to learn the Indonesian language. It looks at the program BIPA (Indonesian for Foreign Speakers) which has been held in almost all major universities both public and private. The great interest of foreigners to learn Indonesian language, also increase the interest of Indonesian language study students to choose and study course BIPA. This study aims to describe the learning of BIPA as the profile of graduates and achievement of learning Program of Language Education and Literature of Indonesia in STKIP PGRI West Sumatra. The study of BIPA as the elective course, in three semesters with three courses and one practice are (1) learning strategy of BIPA, (2) BIPA Teaching Materials, (3) Learning Media of BIPA, and (4) Practice of BIPA. Therefore, this research is to describe the form of learning organization of BIPA in STKIP PGRI West Sumatra. This research is a qualitative research with descriptive method. From the analysis of research data, in the form of planning and execution obtained BIPA learning as learning outcomes (CP) and the graduate profile BIPA teachers.

Keywords: BIPA learning, and Profile of graduate STKIP PGRI Sumatera Barat

1. Introduction

Indonesian great potential to become an international language (especially in southeast Asia) must be supported by a variety of components, ranging from components academia, language practitioners, and other stakeholders. One of them is the implementation of teaching Indonesian language for foreign speakers . Teaching BIPA became one of the spearheads of the ideals support the internationalization of Indonesian language. Through these activities the dissemination and improvement of the quality of speakers of the Indonesian language can be achieved.

Therefore, in its development, the Indonesian language is now giving a significant share for the nation of Indonesia. This is evidenced by the growing interest of foreigners to learn the Indonesian language. It looks at the program BIPA (Indonesian for Foreign Speakers) which has been held in almost all major universities both public and private one of which is College of Teacher Training and Education (STKIP) PGRI Sumatera Barat. STKIP PGRI West Sumatra is an educational institute of education (LPTK) which aims to produce professional education personnel such as teachers and other

education personnel. The study program that opened STKIP PGRI West Sumatra Is a S1 / A IV (undergraduate program) that prepares teachers with the authority to teach one field of study. One of them is the study program of Indonesian language and literature education. In the Indonesian language and literature education program, Has one of the elective courses of teaching BIPA. The BIPA Teaching Package has four courses; 1. Learning strategy of BIPA, 2. BIPA Teaching Materials, 3. Learning media BIPA, and 4. BIPA Practice.

However, until now in developing and organizing the teaching of BIPA there has been no definite standardization, leading to diverse educational backgrounds, ranging from linguistic and non-linguistic. Likewise with the background of his educational qualifications from S1 to S3. What is certain is the standardization of BIPA teaching now has good and true Indonesian language skills, mastering Indonesian language language theory and Indonesian language teaching methodology. Therefore, various methods should be done by the teacher or teaching BIPA organizing institutions for teaching Indonesian to foreign speakers, the planning of teaching, develop

teaching materials, develop instructional media, and draw up an evaluation.

Implementation of Teaching BIPA

STKIP PGRI West Sumatra is an education service group that conducts education on a formal path, which is an educational force educator institution (LPTK) that is eligible to conduct or have a BIPA-chasing selection course. In line with Law No. 20 of 2003 article 43 which states that:

- 1) Promotions and awards for educators and education personnel based on educational background, experience, ability, and job performance in the field of education.
- 2) Certification of educators organized by universities that have accredited educational procurement programs.

- 3) Provisions on promotion, awards, and certification of educators as referred to in paragraphs (1) and (2) shall be further regulated under a government regulation.

So the BIPA teachers are at least S1 qualified in the BIPA professional education.

Profile of Graduates and Learning Achievement (CP) BIPA in STKIP PGRI West Sumatra

Policy Directorate General of Higher Education on the National Qualifications Framework Indonesia (KKNI) which sets the CP and Profile graduates. In general, the stages of preparation of CP qualification graduates KKNI can be covered as in the following Figure.



Profile of graduates and learning achievement of Study Program

Graduate Profile		Capaian pembelajaran
1	As an Indonesian language and literature teacher	<p>Able to become master of the relevant basic sciences of linguistic and literature in order to get a deep study of sasatra and linguistic on the subjects of Indonesian language.</p> <p>Able to master the concepts and techniques of learning, development of learning programs, presentation (methods, procedures, and information technology), classroom management, and evaluation of Indonesian language and literature learning</p> <p>Able to apply basic sciences relevant to the field of linguistic and literature to obtain a deep and comprehensive linguistic and literature review</p>
2	Print media journalism	<p>Able to master basic theories about print media journalism</p> <p>Able to apply print media journalism theory in the world of work</p> <p>Able to apply print media journalism theory in the world of work</p> <p>Able to maintain and develop a network of counselors, colleagues, colleagues both within and outside the journalism institutions print media that shelter</p>
3	Television media journalism	<p>Able to master basic theories about print media journalism</p> <p>Able to apply journalistic theory of television media in the field of journalism, scenario writing, news coverage, and news coverage for television media</p>
4	Teacher of BIPA	<p>Able to master basic theoretical concepts of BIPA teaching and master basic theories about BIPA.</p> <p>Able to apply the basic theory of BIPA in learning Indonesian for foreign speakers.</p>

Thus, the profile of graduate and learning achievement (CP) of BIPA teachers in STKIP PGRI West Sumatra is the object of study in this research. This study aims to describe the learning of BIPA as the profile of graduates and achievement of learning Program of Language Education and Literature of Indonesia in STKIP PGRI Sumatera Barat. Learning BIPA as the elective course, in three semesters with four courses and one practice that is (1) learning strategy of BIPA, (2) BIPA Teaching Material, (3) Learning Media of BIPA, and (4) Practice of BIPA. Therefore, this research is to describe the form of learning organization of BIPA in STKIP PGRI West Sumatera.

2. Method

This research uses qualitative approach with descriptive research design. This study only describes the implementation of BIPA learning in STKIP PGRI West Sumatra. The research report is descriptive and creative in depth by showing its natural characteristics. Sources of data in this research are documentation data of National Standard of Higher Education (SN DIKTI) in 2014, academic guidebook of STKIP PGRI West Sumatra (which is arrangement of organization), and RPS (Semester Learning Plan).

The main instrument in this study is the researchers themselves who are directly involved in the activities pengajaran, collection, completion, and analyzing data research data. Besides the researcher as the main instrument, this research also use supporting instrument to support the research data that is in the form of document analysis guideline.

Data collection techniques are observations as the main technique. The data obtained are documents and drawings obtained from data collection activities in the form of documentation observation activities.

3. Results

The results of this study describe (planning and implementation) of BIPA learning as the preferred subject in the Indonesian language and literature education program STKIP PGRI West Sumatra, with four subjects and one practice namely (1) learning strategy of BIPA, (2) Materials Teach BIPA, (3) Learning Media BIPA, and (4) Practice of BIPA.

Learning Planning of BIPA as the Elective Course at STKIP PGRI Sumatera Barat

In the course of Indonesian language and literature education, STKIP PGRI West

Sumatra has one of the elective courses of BIPA teaching. The BIPA Teaching Package has four courses; 1. Learning strategy of BIPA, 2. BIPA Teaching Materials, 3. Learning media BIPA, and 4. BIPA Practice

- a. Learning strategy of BIPA (2 SKS)
This course discusses the theory of strategy in learning and teaching BIPA. In this course we discuss about the types of learning strategies of BIPA, techniques and methods that can be used in teaching Indonesian language to foreign speakers.
- b. Teaching Materials BIPA (3 SKS)
This course discusses the types, characteristics and characteristics of teaching materials that can be used in BIPA learning.
- c. Media Learning BIPA (3 SKS)
This course discusses the media of learning, understanding, types and characteristics, and characteristics in the learning media suitable for teaching BIPA.
- d. Practice BIPA (3 SKS)
This course discusses the practice of learning Indonesian for foreign speakers. In this course is also discussed about the various characteristics, characteristics, and model pengajaran appropriate for BIPA.

BIPA learning planning in the program Elective courses in STKIP PGRI West Sumatra which opened in the academic year 2015/2016 in the odd semester. Selected courses are prepared by making syllabus, RPS and Course Events Unit (SAP) for each course. Aspects in the syllabus are as follows. First, general information, which includes about the name of course, course, course code and lecturer Pembina. Second, the course description: 1. The position of the course, the synopsis of the course, and the standard of competence. The three libraries / references, main books and supporting books, Fourth, the assessment system; Components / aspects assessed: attitudes, general skills, special skills and mastery of knowledge. And fifth, description of basic competence, subject matter and indicator.

Components in the Semester Learning Plan (RPS) of the Indonesian language and literature education program STKIP PGRI West Sumatra include: First, the learning achievement (CP), which is divided into the CP study program and CP, the courses. Second, a brief description of the Course. Third, the library: main and supporters. Fourth, learning media: software and hardware. Fifth, team teaching. Sixth, CP subject 9

according to the learning stage), learning materials, methods / learning strategies and assessment.

While the planning contained in the SAP component is first, indentisa course. Second, learning achievement / leraning Outcome (LO). Third, lecture material. Fourth, the method of learning. Fifth, learning activities perpertemuan. Sixth, penilian, attitude indicators and bibliography.

Implementation of BIPA Learning as the Elective Course at STKIP PGRI Sumatera Barat

In the implementation of BIPA learning as an elective course in the study program of language education and literature of Indonesia STKIP PGRI Sumatera Barat and as a graduate profile and learning achievement study program of learning activities carried out in four courses in the form of learning in the classroom. The course of learning strategy of BIPA is some specific method which must be mastered by students, in BIPA learning. Among them: a. Direct method, b. Grammatical translation methods, c. Audio Lingual method, d. Community learning method, e. Silent way, f. Suggestive method, g. Method of total physical response and h. Method of communicative approach.

Subject of Teaching Materials BIPA, a course that discusses the design of teaching materials for foreign speakers. The level of material difficulty for BIPA students at elementary level will be different from the material for middle and advanced level. Material that is too difficult or too easy will affect the motivation of BIPA students. Thus, the prepared material should pay attention to gradient difficulties. The material should be composed from easy to difficult and concrete to abstract. The third principle is varied. Material that does not vary will cause saturation. Variations are done both on choosing the type of skills and theme options. For example in learning speaking skills, teachers not only train students in dialogue. Other types of speech should be given

gradually. The theme of the conversation also varies according to the needs of the students. Teaching materials designed should consider the level of learning is the level of basic, intermediate, and advanced.

In BIPA learning media, the students who take this elective course must be creative, and can use the learning media to help foreign speakers quickly understand the learning materials. Learning media BIPA that can be used include a. Graphics media, b. Audio media, c. Audio-visual media, d. Game media and simulation, e. And surrounding environmental media. While the practice of BIPA in its implementation at evaluation of BIPA, BIPA seminar, and research on BIPA.

4. Conclude

The great interest of foreign nation to learn the Indonesian language, make the study program of education of language and literature of Indonesia STKIP PGRI Sumatera Barat open subject of BIPA teaching choice and make BIPA teaching as the profile of graduates and learning achievement of study program. With good planning and execution, increasing the interest of students of Indonesian study program to choose and study the course of BIPA learning.

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BETTER MATERIAL FOR BETTER QUALITY, TEACHING CONVERSATIONAL SKILLS IN AVIATION CONTEXT OF PASSENGER-HANDLING

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Abstract

Due to the increasing needs of qualified employees with good English proficiency for various positions in airlines field, this study is conducted due to the need of a good material composition in teaching English for the students prepared for the careers. This qualitative study shortlisted the conversational skills needed in passenger-handling, based on what frequently performed in the reality. Data were collected through questionnaires distributed to working alumni and staffs and interviews with airport manager, staffs, also school coordinator. This paper presents the elements of English conversational skills the students need to master, related to their job in passenger-handling, and the plan of technique to apply in teaching. The skills are classified into general conversation and on-the-job conversation. The various teaching techniques are possible if focusing on how students are able to perform the conversations well. Hopefully, this paper could foster initiative thinking among ESP teachers in evaluating and revising their course material preparing students to have a better quality of English proficiency in global communication.

Keywords: conversational skill, english for specific purpose, aviation english, need analysis, passenger handling

1. Introduction

The realization of ASEAN Economic Community (AEC) started as of 2016 concerns on the service of several following sectors: airline, online service, tourism, medical and logistics as stated by Abdurrahman, 2015 in [1]. The language used in the workplace as the communication tool is English. Consequently, teaching ESP (English for Specific Purpose)-EOP (English for Occupational Purpose) and its material relevance should not be neglected, considering the fact that the number of studies presented in TEFLIN (Teaching English as Foreign Language in Indonesia) conference during 2011 until 2014 on ESP-EOP topic is extremely few. Thus, the trend of ESP especially EOP seemed to be an unpopular area of research in Indonesia [1].

In fact, there have been a number of ESP researches in business [2], tourism as in [3],[4]; pharmacy [5] and others, but not in the area of Aviation English especially for airport passenger handling. The reference found about Aviation English were mostly about the communication between pilot and air traffic controllers [6]; [7]; [8]). Therefore, considering the urgency of attention given in this particular field, the researcher perceived the need of more studies in

such area, and this one might be the initial study for further researches.

The business growth of airports and airlines in Indonesia seemed to be a new promising area. The need of young qualified workers is increasing year by year. Mostly found in big cities, there are a lot of aviation schools and training centers in Indonesia offering such course. Depart from this, there are individuals in private sector saw this fact as an opportunity to open aviation training centers with short-term course preparing the students to start career in airlines industry as soon as possible in a very young age of nineteen or twenty. Meanwhile, these students must compete for job opportunity, and possessing good English proficiency is one of the preferred skills.

In Indonesia, ESP teachers shall put a greater effort than some other ASEAN countries since English is a foreign language, not a second language. In order to help these students who mostly still have low English proficiency to learn English used in their target job, needs analysis has been the most popular and relevant methodology in ESP area [9]. Reference [10] also confirmed that needs analysis is the method the teachers should use to compose the material which suits the learners' need.

Beside needs analysis, ESP could be studied by using three other methodologies:

ethnography, English as lingua franca (ELF), and corpus, which was also mentioned by [1]. As the heart of ESP is that it must be fulfilling the learners' need [9], ESP teachers need to evaluate, revise, and update their teaching materials in order to help the students to master English well and to be competitive. In the context of Aviation English for passengers handling, what are the topics in teaching conversational skills which are relevant to the needs; that is the frequently performed conversation in the job site?

2. Method

This study objects needs analysis for designing teaching-learning material of English conversational skills for candidates of airport passenger-handling staff. Regarding with related conversational skill, there are two aspects studied: 1) The feedback/perception from stakeholders; the manager and station coordinator, who managed and supervised airport staffs, 2) the experience of airport staff in passenger-handling position when they performed conversation with English speaking passengers in their job.

Research instruments were designed to find out those two aforementioned aspects by designing a list of questions in the questionnaire and interview. Arranged as open-ended questionnaire, there are 15 questions for manager / coordinator and 10 questions for the staffs. The earlier questionnaire consisted of two parts: general information about the job of passenger handling and the perception about English conversational skills among the staffs. The latter

questionnaire contained about the staffs' experience related to the conversation with English-speaking passengers and their reflection toward their own performance.

The researcher gathered the data from the respondents working in an operating company at Adi Sumarmo International Airport in Surakarta. After collecting the responses from the operational manager and station coordinator who had been working in the company since 14 years ago, also from five staffs out of twenty five working staffs in passenger handling position with various length of working experience, the researcher clarified several responses through in-depth interview. The data were analyzed through triangulation and categorization to list the conversational skills needed by ESP students in context of aviation industry – passenger handling.

3. Results

From the coordinator's response, it revealed that there were five sub-positions in passenger handling, namely; service (greeting), check-in (*pasasi*), AVSEC (Aviation Security), boarding (waiting room), also lost and found. The station coordinator and operational manager confirmed that each subposition had different job description and the urgency of English conversational skill.

Table 1 below displays the subpositions and their job descriptions, given the rank based on the urgency of English conversational skill, from the most urgent subposition to the less urgent ones respectively.

Table 1. Passenger Handling's Subpositions and Their Job Description

Rank	Subposition	Job Description
1.	Check-in	Assisting check-in passengers, handing boarding pass, managing passengers' seat number, accepting baggages
2.	Services (Greeting)	Greeting passengers, assisting passengers with special needs (wheelchair, disabled), pregnant women, and VIP
3.	Lost and Found	Handling and checking passengers' baggages after flight, dealing with lost and found
4.	Boarding (waiting room)	Greeting and assisting passengers in waiting room, proceed boarding to the plane
5.	AVSEC (Aviation Security)	Ensuring security and safety of passengers and their bag(s)

The percentage of passengers speaking English was predicted by the operational manager around 10% out of all passengers, while the staffs confirmed that they handled English-speaking passengers approximately 6 to 10 times per week. Additionally, based on the interview with the manager and coordinator also the staffs as well, it revealed that the staffs of passenger handling still need much improvement related to their English communication skills either passive or active. All the staffs interviewed stated that they did not have confidence regarding with their English proficiency. This problem, according to the coordinator, often caused troubles regarding

with both obstruction and ineffectivity of communication in explaining delayed flight or mishandled baggages.

Even though the company management had not given any control, check, or evaluation related to the staffs' English conversation, they had monthly program to train English conversational skill among the staffs of passenger handling. This is important for the staffs, who still seemed frustrated related to their low proficiency in performing conversation (showed in the next figure of data from questionnaire and interview with the staffs).

Respondent	A	B	C	D	E
Sub-position	Services (greeting)	Check-in	Check-in	Lost and Found	Boarding
Length of Work	7 months	6 months	5 months	5 months	3 months
Frequency	More than 8 per week	About 8 times in a week	Often, may be 9 times per week	Around 4 or 5 per week	Often, may be 6 times
Topic Performed in the Conversation	Greeting and welcoming Asking for ticket or itinerary Giving direction	Security question Giving direction Warning about valuable belongings, electronic, and fragile in the baggage	Check-in conversation Excess baggage Giving direction Informing passengers about delayed or cancelled flights	General introduction Casual topic Complaining missing baggage (left at the previous airport) Lost and found procedure Giving direction (gate, toilet)	Asking for boarding pass and checking identity Ensuring the gate of the flight
Problem encountered during the conversation	Need improvement in understanding uncommon utterance Lack of vocabulary Asking the condition or need	Understanding their utterance Responding their question or communication Lack of vocabulary Understanding English in various	Understanding their utterance Able and fluent enough to give response for common questions about procedure Cannot communicate	Lack of vocabulary Low skill in listening and responding Cannot express responses comfortably	Sometimes difficult in pronouncing words when doing boarding call Cannot understand their utterance very

Figure 1. Summary of Questionnaire and Interview with PH Staffs

Fig. 1 presents the responses from the staffs divided on categories namely; sub-position, length of work, frequency of handling English-speaking passengers per week, topic they performed in the conversation, and the problem encountered during the conversation. The researcher, however, could not find any respondent whose job is in AVSEC or Aviation Security. From the further explanation of the station coordinator, the staffs working in AVSEC still need English skill and related vocabulary primarily to perform instruction (imperatives) and prohibition to handle passengers going through security check.

The figure shows that all the staffs have less than one year experience working in the airport. Performing different conversational topic for each sub-position in their job, the staffs still encountered problems when doing so, showing that they still really need skill improvement both passive and active. These findings, can be either evaluation or reference for ESP teachers in aviation industry.

4. Discussion

Based on the data analysis, it proves that the passenger handling staffs still need to improve

their English conversational skill. This is understandable, since English is not a second language in Indonesia, but a foreign language. As [11] stated, teaching and training conversational skill in the classroom will lead the students to gain both linguistic and communicative competence. Thus, in the context of ESP, the class environment should be friendly for the students to express their idea, enhancing social interaction based on the topic of the assumed setting based on the 'real' topic.

In conversation act, according to [11], the interlocutors who are English native speakers frequently performed simple utterances which are not as perfect as the conversation example in any grammar book, did not consider grammar as the major aspect to elicit ideas. Therefore, relevant topics selected are very important to support the assumption of situation in the instructional process. Below is the list of topic frequently performed by the staffs working in passenger handling summarized from data analysis:

- a. Greeting
- b. General introduction
- c. Casual dialogs (e.g. about tourism spot)
- d. Asking for ticket and passport
- e. Giving direction
- f. Warning or reminding
- g. Informing passengers about flight schedule
- h. Imperative and prohibition
- i. Job-related procedure
 1. Checking-in
 2. Handling complaint
 3. Lost and found procedure
 4. Dealing with excess baggage
 5. Security questions

Several numbers belonged to the list agreed the findings in a study conducted in China by [12] on the topic of ESP Course Design for Airport Information Desk Staff. This study revealed that dialog about traveling, giving direction, also lost and found properties are very important topic in the syllabus. This shows that the findings could be the consideration for ESP teachers teaching Aviation English in almost any country.

In teaching conversational skills, additionally, ESP teachers should concern and develop teaching strategies to overcome the problems encountered by the students (reflected from the data recorded), related to:

- a. Mastering vocabulary
- b. Building self confidence
- c. Improving positive attitude toward English

- d. Strengthening passive and active communication skills
- e. Teaching pronunciation

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SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS (STEM) AS MATHEMATICS LEARNING APPROACH IN 21ST CENTURY

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Abstract

Education today are expected to provide hard skills and soft skills for learners to form a competent human resource to enable them to compete in the international. The ASEAN economic community provides a major challenge for developing countries like Indonesia in improving the competitiveness of products and labor. Therefore, the necessary education that can provide learning experiences for students so that students have the ability to solve problems, think deeply, manage projects, and use a variety of technology and information tools. Learning patterns, which could give it is STEM. Math is an important lesson because mathematics is very useful in human life. Mathematics also can be integrated with a wide range of disciplines such as science, social studies, art, health, reading/language arts, and physical education. The 21st century requires competent human resources in science, technology, engineering, and mathematics. This paper aims to describe the importance of STEM as mathematics learning approach in Indonesia in the 21st century. This paper uses a descriptive analysis research method, and the method reveals that STEM education growing in developed countries today can be a framework for innovation mathematics in Indonesia in the 21st century. STEM education integrate understanding of science, math skills, and the available technology with the ability to perform engineering design process. Implementation of mathematics learning with STEM approach makes graduates trained in the use of mathematical knowledge they have to be creative innovative products that are able to solve the problems that exist in society.

Keywords: stem, learning approach, mathematics learning, 21st century education.

1. Introduction

Education today is expected to provide hard skills and soft skills to students to form a competent human resources to enable them to compete in the international world. The existence of the Asean Economic Community (AEC) present major challenges for developing countries like Indonesia in improving the competitiveness of products and labor. Therefore we need various measures to be able to realize these expectations. The most important aspect in the development of a country is education. Education is needed now is education that can provide learning experiences of students so that students have the ability to solve problems, think deeply, manage projects, and use a variety of tools and information technology.

In education, there are some subjects that are important to study because it has many benefits both in real life and in integration with other subjects. One of the subjects that are very important to learn in school is math. Mathematics is an important lesson because mathematics is very useful in life. Math can also be integrated

with a variety of disciplines such as science, social studies, art, health, reading / language arts and physical education. The 21st century requires competent human resources in science, technology, design engineering and mathematics. Related to economic growth in the 21st century, workers should have a science and math skills, creativity, expertise in information and communication technology, and the ability to solve problems with complex (Jayarajah, Saat, and Abdul Rauf, 2014).

Akgunduz (2016) revealed that in order to be able to compete in the global economic system in the 21st century, a country must establish education where students gain an understanding of science (Science), mathematics (Mathematics), engineering (engineering) and computers (Technology), and produce by using the necessary skills in the field. Furthermore, he also said that the education of Science and Technology recently is a constructivism and investigations aimed at integration with other disciplines such as the effective use of technology (Engineering) and problem solving

skills (Mathematics) in building the basis of STEM education.

This is supported by research of Wijaya, Karmila, and Amalia (2015) that STEM-based learning can train the abilities and talents of students face the problem of the 21st century addition to a primary school teaching is based on a theme based on STEM is expected to produce the final output (Output) in the form of products and designs created by the students associated with the design.

The development of approaches STEM in education in developed countries shows that STEM need to exist in education in Indonesia for STEM (Science, Technology, Engineering, and Mathematics) is a paradigm that creates interdisciplinary learning and provide achievement of the results of science, mathematics, engineering, and technology while doing so (Akgunduz, 2016).

STEM is implemented in schools from an early age to be a major influence for a State to meet global challenges, as said Fadzil & Current (2013) that the presence of information technology, knowledge-based economy, the mastery of Science and technology for students, schools must produce human resources knowledgeable and competent with adequate ability and creativity to lead the country forward. Based education through Science, Technology, Engineering and Mathematics (STEM), the development of technology can be scaled to meet global challenges.

The findings of the study (Han, Rosli, Capraro, Capraro, 2016) showed that students in the school STEM PBL showed higher scores on the material geometry, probability, and problem solving than those in non-STEM schools PBL. It shows that STEM is suitable to be applied to most materials Mathematics.

In mathematics, using the concepts of STEM will make students more frequently apply the material in everyday life so that students will get used in solving mathematical problems in everyday life by thinking scientific, using technology to obtain a variety of information, and data processing with engineering capabilities , As said Wang, et.al. (2011) that the training of students in this way (paradigm STEM) is considered beneficial because it is a multidisciplinary world which relies heavily on the concept of STEM, in which students must use to solve real world problems.

Wang, et.al. (2011) explains that the multidisciplinary integration requires students to connect the components of the various subjects taught in different classes at different times, while the interdisciplinary integration could

begin with real world problems. Benacka (2016) also says that learning to the real world is very important in the STEM subjects, therefore the STEM learning should be more emphasis on investigation and authenticity.

Chew Cheng Meng (2014) say that STEM-based education is interdisciplinary field that connects the four disciplines, namely Science, Technology, Engineering and Mathematics. Power of STEM workers in the field regarded as one of the indicators of a nation's ability to generate innovative ideas in several countries. This is because students who master STEM has a lot of capabilities, such as the ability to identify, implement, and integrate the concepts of Science, Technology, Engineering and Mathematics to understand complex issues and have the ability to innovate in solving problems.

The pattern of mathematics learning approach STEM emphasizes the principles of practice, where in each student's learning is always facilitated to practice so that students get the learning experience not to be forgotten as research Chew Cheng Meng (2014) concluded that STEM must emphasize on the learning experience of students in schools, the concept of eye an integrated lessons, connections between subjects, the student's ability to solve problems, methods of thinking in depth, the ability to manage projects types of tasks, understanding and skills regarding the design engineering, as well as the use of information and technology. This is also supported by Fadzil & Current research (2013) which concluded that the practice can improve students' manipulative skills and competence in manipulative skills can enhance STEM education in Malaysia.

Some studies say that learning approaches that support STEM is the discovery or inquiry-based learning as well as research of Blessinger & M. Carfora (2015) who argued that the inquiry-based learning (IBL) is currently used in various STEM program. The study strongly suggest IBL for IBL has great potential to improve and transform teaching and learning.

Based education STEM is recognized as a way to motivate children to enjoy math as said Jayarajah, When, and Abdul Rauf (2014) increment based education STEM into how to motivate young people to be more interest into science and math because math knowledge affects the economy of the State such opinions Abdullah Halim and Zakaria (2014) that the whole economy of the country related to math, science, accounting, transportation, engineering, economics and geology so that the main responsibility as an educator is to instill the importance of STEM into the mathematics

curriculum. One way is to increase the ability of mathematical problem solving among school children.

In general, how to teach mathematics focuses on exercise and given the facts and procedure, while this does not encourage the thinking and problem solving for students do not learn the importance of math in everyday life because just being students memorize math. Math problem solving skills can be achieved by applying complex thinking through systematic awareness (Abdullah Halim & Zakaria, 2014). It reveals the importance of innovation in learning mathematics that can provide in-depth knowledge to the students in order to become a competent resource of the 21st century. Based on some opinions about STEM education above, it is offered as an approach approach to STEM learning of mathematics in the 21st century.

2. Method

This investigation focused on several articles published in 2011 through 2016 that talks about STEM. Obtained nine articles were analyzed to reveal the STEM approach which is then analyzed to be applied to the study of mathematics. Articles obtained among others A Review of Science, Technology, Engineering & Mathematics (STEM) Education Research from 1999–2013: A Malaysian Perspective from Eurasia Journal of Mathematics, Science & Technology Education (EJMSTE), a Research about the Placement of the Top Thousand Students in STEM Fields in Turkey between 2000 and 2014 from Eurasia Journal of Mathematics, Science & Technology Education (EJMSTE), Enhancing STEM Education during School Transition: Bridging the Gap in Science Manipulative Skills from Eurasia Journal of Mathematics, Science & Technology Education (EJMSTE), The Effect of Science, Technology, Engineering and Mathematics (STEM) Project

Based Learning (PBL) on Students' Achievement in Four Mathematics Topics dari Journal of Turkish Science Education (JTSE), what Is STEM? A discussion about conceptions of STEM in education and partnerships from School Science and Mathematics (SSM), STEM Integration: Teacher Perceptions and Practice from Journal of Pre-Collage Engineering Education Research (JPEER), Secondary Students' Perceptions of Assessments in Science, Technology, Engineering, and Mathematics (STEM) from Eurasia Journal of Mathematics, Science & Technology Education (EJMSTE), Innovative Approaches in Teaching and Learning: an Introduction to Inquiry-Based Learning for Stem Programs dari Innovations in Higher Education Teaching and Learning (IHETL), and VStops: a Thinking Strategy and Visual Representation Approach in Mathematical Word Problem Solving toward Enhancing STEM Literacy dari Eurasia Journal of Mathematics, Science & Technology Education (EJMSTE).

Nine of the article, then taken matters relating to the benefits and applications of STEM then analyzed to be applied to the study of mathematics that will be the approach to mathematics that can sustain the needs of countries in the 21st century.

3. Results

The findings of this study provide a descriptive analysis of the nature of research currently being done in the field of STEM education. The findings demonstrate the frequency of article method/research design in the published articles, the frequency of research focus/outcome in the published articles, the frequency of each type of participant group, and the affiliation of the first and second author of the published articles.

Table 1. Frequency of Article Method Sorted by Journal

Article Methode	EJMSTE	JTSE	SSM	JPEER	IHETL	Total
Activity						
Description	1					1
Editorial						
Literature			1			1
Mixed						
Quantitative	2	1				3
Qualitative	2			1	1	4
Total	5	1	1	1	1	9

Of these, there are 9 articles that can be analyzed to obtain the results of the implementation of STEM education.

What is the Scope of the Research being Conducted in STEM Education?

In the previous study, Brown conducted content analysis to identify seven types of research methods in the published articles. The present study utilized the same categories in the spirit of the original definitions:

- a. Activity, Any article that described a classroom activity, along with specific instructions for a teacher to follow and an analysis of the effectiveness of the lesson.
- b. Descriptive, An article that described a process, event, or pedagogy without a specific activity.
- c. Editorial, Articles that were based solely on the author's opinion, but that specifically discussed STEM education research.
- d. Literature Review, Articles that reviewed and summarized existing literature on the topic of STEM education.
- e. Mixed Method, Articles in which authors performed a research study with both quantitative and qualitative aspects.
- f. Quantitative, Articles in which authors performed a research study solely by collecting and analyzing quantitative data.
- g. Qualitative, Articles in which authors performed a research study solely by collecting and analyzing qualitative data.

Table 1 shows that the method used to discuss and report findings were heavily concentrated in mixed methods, quantitative research, and editorials. Descriptive articles, activities, and literature reviews were the least frequently used approaches. The articles are sorted by the journal in which they were published to demonstrate the type of research that each journal tends to publish.

Table 2. Article Outcome Sorted by Journal

Article Outcome	EJSTME	JTSE	SSM	JPEER	IHETL	Total
Science Education						
Technology Education						
Engineering Education						
Math Education	2	1				3
Integrative STEM	3		1	1	1	6
Total	5	1	1	1	1	9

Table 2 shows which type of article is most frequently published by each of the journals in the study during the research period.

3. Discussion

One of the characteristics of STEM education is to integrate science, technology, engineering, and mathematics to solve real problems. However, there are various methods used in practice to integrate disciplines - the STEM disciplines, pattern and degree of its integration depends on many factors (Roberts, 2012). If the subjects of science, technology, engineering, and mathematics are taught as subjects are separate from each other and are not integrated (referred to as "silos"), this situation is more aptly described as an S-T-E-M than STEM (Dugger, n.d). The second way is to teach each STEM disciplines that are more focused on one or two of the STEM disciplines. The third way is to integrate one into three STEM disciplines, such as engineering content integrated into the subjects of science, technology, and mathematics. A more comprehensive way is the fourth fuse STEM disciplines and taught as an integrated subject, for example, the content of technology, engineering and mathematics in science, so the math teachers integrate S, T, and

E into M. As said Breiner, et.al. (2012) that the vision of an integrated approach to STEM education aims to remove the walls between each of the STEM fields in the silo approach and the approach embedded (embedded), as well as to teach students as one of the subjects. But in mathematics learning of STEM is used as a paradigm of thinking where in the study of mathematics, students are taught to think scientific, using technology to obtain a variety of information, and data processing with engineering skills. In the context of primary and secondary education is common in many countries, including Indonesia, only the subjects of math and science that are part of the conventional curriculum, while the technology and engineering subjects only a minor part or even not in the curriculum. Therefore, more terpumpu STEM education in math and science.

In this regard Bybee (2013) conceptualize a continuum of integration STEM consisting of nine alignment patterns, ranging from disciplinary S-T-E-M as a "silo" (subjects stand alone) to STEM subjects as transdisciplinary. Integrating deeper into subjects form transdisciplinary curriculum requires a thorough restructuring, so that a relative may be difficult in the context of the structure of a conventional curriculum in Indonesia. One intergasi patterns

that may be implemented without restructuring the curriculum of elementary and secondary education in Indonesia is to incorporate the content of science, engineering, and technology in mathematics learning, as illustrated in Figure 1.

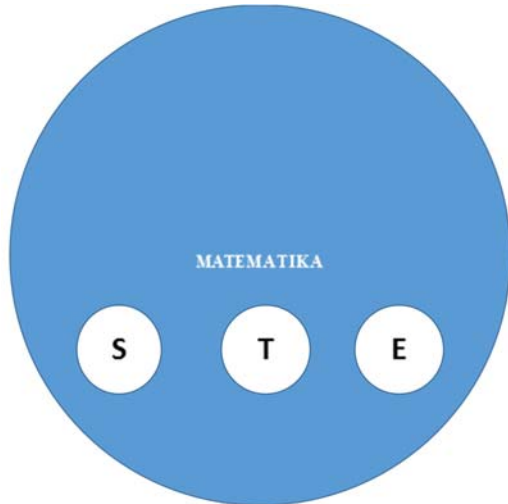


Figure 1. illustrated of science, engineering, and technology in mathematics learning

Full integration patterns are relatively easy to do at the primary school level, when learners are taught by a classroom teacher. Meanwhile, a form of "embedded STEM" is more appropriate for middle school. STEM education embodied in certain situations when learning math or science involves activities authentic problem-solving in the context of social, cultural, and functional (Roberts, 2012). Mathematics and Science deemed fit to be a vehicle to bring Education STEM, because both of these subjects is the main subject in primary and secondary education, and became the foundation for students to enter careers in the disciplines of STEM, which is seen as fundamental to technological innovation and economic productivity.

STEM education aims to develop a STEM-literate learners (Bybee, 2013: 5), which has:

- a. Knowledge, attitudes, and skills to identify questions and problems in his life situation, explain natural phenomena, designing, and draw conclusions based on the evidence of STEM related issues.
- b. Understand the characteristic features STEM discipline as a form of knowledge, investigation, and the design was initiated by humans.
- c. Awareness of how the disciplines of STEM forming material environment, intellectual and cultural.

- d. Want to be involved in the study of STEM related issues (eg energy efficiency, environmental quality, natural resource constraints) as constructive citizens, concerned, and reflective by using the ideas of science, technology, engineering and mathematics.

4. Conclusion

STEM education is a global movement in educational practice which integrate with different patterns of integration to develop the quality of human resources in accordance with the skills to claim the 21st century. Learning math STEM-based education curriculum compatible with the system prevailing in Indonesia today. STEM-based learning mathematics is learning the subject matter of mathematics, in which the integrated design system designs and the use of technology for solving real problems. It is expected the learning of mathematics-based STEM education contribute to improving the competitiveness of Indonesia. STEM-based implementation of mathematics learning requires learning mode shift from teacher-centered learning to the learner-centered learning, of individual learning towards collaborative learning and emphasizes the application of mathematical knowledge, creativity and problem solving. In addition, the implementation of STEM-based mathematics instruction also requires a shift in valuation methods, from conventional assessment relies on testing toward authentic assessment that emphasizes performance appraisal and work products. In mathematics, an assessment of the cognitive aspects of using a test description that will encourage students to be able to solve complex problems and encourage students to high-level thinking. Therefore, STEM can be innovative approach to learning mathematics in the 21st century, especially in Indonesia to establish a competent human resources and is expected to help the country.

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ANALYSIS OF TEACHING MATERIALS ON WRITING KID STORIES FOR THE FOURTH GRADE OF ELEMENTARY SCHOOL IN SURAKARTA

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Abstract

The research aims to analyze the quality and the decency of teaching materials related to the matter on writing kid stories in the fourth grade of elementary school in Surakarta. Data collecting technic in the research is done by interviewing, observing and doing Forum Group Discussion (FGD) together with some the fourth grade teachers of elementary school. Method used in the research is descriptive qualitative. The result of the research show that in elementary school especially the fourth grade, the learning of kid stories writing still has some problems. Its problems are only available some teaching materials on writing stories and they are still to common and incomplete in the teaching materials available in elementary school, they are only some examples on kinds of kid stories and kid stories writing exercise. The matters look in suffucient because there is no matter about how to write kid stories. The teachers say that they only present the lesson which are similar to the books in their teaching. Therefore the students can not maximize their ability on writing kid stories. The teachers still need the addition of teaching materials on writing kid stories as support. So we need the new innovation about the developing og teaching materials on writing kid stories as the additional materials helping the teachers and the students of the fourth grade controll the matter of kid stories writing. The result of the research is gotten the prototype of teaching materials on writing kid stories on contextual basis which can help the teachers as the teaching media in enlanging the sight on writing kid stories and the students are motivated in expressing idea, opinion and mind in a story.

Keywords: teaching material, writing, kid story.

1. Introduction

Language plays an important role in the development of the students intelectual, social and emotional and supports the success in learning all subjects. Writing skill is one of four aspects in language skills taught at school. The four aspect are paying attention, speaking, reading and writing skills. They always relate one another. By writing, the students study to express what are in their minds.

Writing skill is the last language skill. The writing activity is the last competency form controlled by a language student after listening, speaking and reading skill (Nurgiyantoro, 2012:422). The writing skill is considered as the most difficult skill to be controll even for a native speaker. The writing activity no only expresses the idea, but also has the ability to express idea, knowledge, experience, concept, feeling and hope which will be delivered through their writing for other people. Due too the importance of writing in Indonesian teaching at shcool, the teaching of writing needs to be more efective. Being taught the writing skill. The students are expected to have the better skill. Explaining the

matter of stories writing should be more variative.

According to Puryanto (2008:7), kid story contains the educating theme, its story way is straight and fluent, using the setting which is around or in kid world, figure and figuration contain a good example, its style language is easy to know but can develope kid language, sight corner of right man and its imagination is still in children mind. Tarigan (1995:5) defines that kid story is a book which focuses children's eyes as the main observer, children's eyess as ust focus. Kid literature is a literature that reflects a feeling and experience from today's children, which can be seen and understood through children's eyes.

Kid story writing skill is one of the activities whicch the students have to do. Kid story is a story which the readers are espically children. According to the readers purpose, kid story is required to be made in the different form from adult story so they can be accepted and understood by children well. Kid story is the shadow or the description of the life of imaginative child into the shape of kid language structure kid story is one of the literature form which is arranged on the rality or the imagination with content and language of the children and so

they can understand and do the goodness. According to Kurniawan (2011:43), kid story is a story which is written with children's imagination. Kid story, in kid literature theory included kid fiction, that is kid literature which is told narratively with the fictionality aspect. There are some kinds of kid stories. They are realism kid story, formula kid story, fantasy kid story, science kid story and traditional kid story.

In the learning process, kid stories writing needs the support teaching materials. The teaching materials or education content is the learning matter which is given by the teachers to their students. In the book "Pedoman Memilih dan Menyusun Bahan Ajar" (Depdiknas 2006:4) is stated that teaching material or instructional materials mostly consist of knowledge, skill, and attitude that must be learnt by students in order to reach the determined competency standard. In detail, kinds of teaching materials consist of knowledge (fact, concept, principle, procedure), skill and attitude. The role of the teaching materials for teachers and students is very important in teaching process. According to National Center For Vocational Education Research Ltd/ National Center For Competency Training (Majid, 2007:173-174), there are two meanings of teaching materials :a) teaching materials is information, instrument and text that is needed by teachers or instructors for the plan and exploration of teaching implementation, b) teaching materials is every materials which are used to help teachers or instructors do the activity of teaching and studying in class. The materials can be written and unwritten.

According to Amri (2010 :159), the teaching materials have the important position in the teaching. The teaching materials is all materials used to help teachers/instructor do the activity of teaching and learning in class. The materials can be written and unwritten. According to Arsyad (2011:89), a teaching material has to have the interest to attract the students attention and willingness to study. The interest of teaching materials can be put in some parts, like : cover, content with pictures or illustrations and exercises which are made interestingly. Introduce each chapter or new parts differently.

Based on the result of observation and interview to the fourth grade teachers in some school in Surakarta. They use textbook from publishers. They state that in their teaching, they teach what are in the book. The book from publishers only give some contextual problem of each material. The materials about stories writing are not complete yet. In general, the books are still common and only give meaning, only some example on the story and questions on writing

exercise. Therefore, in the teaching process of writing, the teachers often ask their students to write without being taught how to write. So the teaching materials has the most important position in the teaching process.

2. Method

The research uses descriptive qualitative method which try to describe phenomenon, situation, event or actual event about the teaching materials of story writing. The observer acts as instrument and data collecting. The research is done in five christian schools in Surakarta. The data analysis done descriptively is exploring all materials which are got from the document analysis, observation result, interview and Forum Group Discussion (FGD)

3. Results

a. The Result of The Teaching Analysis on Writing Story

Based on the observation and interview in the fourth grade of elementary schools in Surakarta, in the teaching process of Indonesian, especially the kid stories writing matters still has some problems both from the teachers and from the student. In the teaching, the teachers are not maximum to teach about writing. So they give theory on writing but they are not maximum to practice. The percentage of writing skill matters, especially on sub writing of stories in textbook is too small. Besides, the students only focus on the exercises than the story making process. Because of the lack of explanation and practice on writing, it affects the low creativity of the students. They don't realize the importance of kid stories writing. They have the difficulties on the teaching of story writing. Up to now, the skill of students on expressing ideal and opinion into story is not maximal yet.

b. The Result of Teaching Materials Document

From interview, observation and Forum Group Discussion (FGD) with the teachers of the fourth grade from elementary school in Surakarta, the result I get is the teachers use the teaching materials to support and help them when they teach in class. They teach the same lesson as what is in the textbooks. The books from publishers give the contextual problem in giving matters. The matters about the teaching of story writing is not complete. In general, the textbooks are still common on some language skills which consist of listening, speaking, reading and writing skill in a book. Besides, the books only present meanings, examples of the story and lack

of writing exercise. At school, there is no specific book in a certain skill, like writing skill. The materials are considered too small because there is no materials about how to write story. Beside the teaching materials are insufficient, the other problem the schools have, is the lack of the teaching materials. The teachers in the teaching process only use a textbook as a guide and an exercise book as the additional evaluation, besides there is no the used teaching materials. This affects the lack of the maximal ability on writing kid story for the students. The teachers still need the additional teaching materials on writing kid stories as a support, so it will make easier for the teachers in the teaching process. The expected teaching materials are the materials which can relate the matters with the daily surrounding, so the students are easier and motivated in their learning process. The teaching materials should contain about story writing technic and contextual materials in order to be understood by the students. Beside the materials about kid story writing, the teachers also hope that the teaching materials contain the exercises of kid story writing and work sheet of kid story writing.

4. Discussion

Based on the result of observation, interview and Forum Group Discussion (FGD), the teachers state that they present the lessons which are in textbook. The books from publishers only give contextual problem in presenting materials. The materials about the teaching of story writing is insufficient. In general, the books are still common and only present meanings, some examples of the story and the exercises of writing. The materials are considered too small because there is no materials about how to write stories. Because of this, in the teaching process, the teachers only ask their students to write story without being taught how to write. So the teaching has the most important position in the learning process. It goes along with the research done by Mustofa and Effendi (2016: 1 – 8) which state that the teachers present the lessons which are similar to the books their teaching. Today's books only give contextual problem in presenting matters. The materials about the teaching of story writing are insufficient. By looking the reality in field on the availability of the teaching materials about kid story writing in elementary schools to maximize the teaching process, so we need a new innovation about the teaching materials of kid story writing in the fourth grade of elementary schools. It is for supporting the teaching process

especially in kid story writing skill. So the students can control and increase their creativity well. Beside as the support for students for student, the teaching materials also help the teachers enlarge their sight about the kid story writing skill. So it is needed the development of the teaching materials about the kid story writing on contextual basis which can help the teacher relate between the taught materials with the situation of the real world and support the students to make relation between knowledge they have with their application in their life as the society family members and it is implemented into the Indonesia on writing kid story. The students can lift up the problem in their daily life and it up to the kid story writing skill.

5. Conclusion

Based on the research above can be concluded that there is insufficient materials in elementary schools. The activity of learning with the availability of teaching materials at schools does not fulfill the principle of teaching materials yet. So it's needed the development of teaching materials about kid story writing of the fourth grade in elementary schools to support the teaching materials especially the kid story writing skill. So the students can control and increase their creativity well.

The result of the research is got the prototype on the teaching of kid story writing on contextual basis which can help the teachers as the teaching media in enlarging the sight on kid story writing skill and the students are motivated in expressing idea, opinion and mind in a story

The suggestion given to the used teaching materials are : 1) it is needed next innovation about the teaching materials for elementary schools. 2) the teaching materials which will be arranged later, should be arranged with the approach on student's ability and characteristics in order that it can increase the student's skill in using language.

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DEVELOPMENT OF LEGAL EDUCATION IN SAUDI ARABIA

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Abstract

Since the Kingdom of Saudi Arabia was founded in 1932, its constitutional system has always been based upon the provisions of Islamic law, which is considered the supreme law that trumps all state's regulations, decisions as well as the ratified regional and international conventions.

The Basic Law of Governance of 1992 has validated this principle in many of its articles, such as article 7, which asserts: *"Governance in the Kingdom of Saudi Arabia derives its authority from the Book of God, and the Sunnah of his Messenger, both of which govern this legal system and all institutions of the State"*. Moreover, article 46 affirms as well that *"the judiciary shall be an independent authority. There shall be no power over judges in their functions other than the power of the Islamic Shari'ah."* In addition, article 48 states: *"The courts shall apply the provisions of Islamic Shari'h to all cases before them, as indicated by the Qur'an and the Sunnah, and all laws issued by the ruler which are in conformity with the Qur'an and the Sunnah"*. Finally, article 67 affirms that *"the regulatory authority shall have the power to promulgate laws and rules, which are conducive to the realization of common good or warding off harm to State affairs in accordance with the principles of the Islamic Shari'ah. It shall exercise its jurisdiction in accordance with this Law, and Laws of the Council of Ministers and the Shura Council"*

Examining the Saudi legal system, it is evident that it is an amalgamation of both written and unwritten laws. On one hand, there are some basic principles of law that are not written and thus rely on the provisions of Islamic law, such as Civil Code and Penal Code. On the other hand, codified written laws are also to be found such as Commercial Law, Labor Law, Criminal Procedure Law, and the Shari'a Procedure law.

Consequently, due to the fact that Islamic Shari'a law is considered the supreme law of the state, this study will focus on whether the education system in the Kingdom must take this principle into consideration when designing its curricular, questioning the importance as well as the feasibility of requiring all future legal professionals to study the provisions and regulations of Sharia Law with all its components, provided that Sharia Law is a comprehensive discipline that is considered to be an independent discipline of the study of Law in general.

Analyzing the degree plans of law programs in several universities in KSA, one can note that most of them do offer compulsory Islamic Law courses. However, one must question whether these courses are sufficient to qualify the law graduates to have comprehensive knowledge of provisions of Islamic law, and secondly whether these courses can influence the strength of the overall degree plan since it might affect the concentration balance between the Sharia Law courses and other courses in different bodies of law in general.

One of the expected results of this study is that such law programs should offer courses that allow the law graduates not just to have a strong foundation of the law in general but to be acquainted with all bodies of law including non-codified rules that are based on Islamic law, such as the Civil Code and the Penal Code as well as the newly codified laws by the state. Therefore, the law graduate would have a comprehensive as well as all-encompassing knowledge and understanding of all bodies of law enlarging their legal expertise.

Keywords : Development, legal education, sharia, Saudi Arabia.

1. Introduction

Due to the recent developments of the legal system of the Kingdom, especially with the codification of several rules, a prominent interest

is evident in the growth of the legal education in Saudi Arabia. The law in Saudi Arabia is an amalgamation of both written and unwritten laws, which includes the Islamic laws that are considered supreme law and trump all state's

regulations and decisions, and also modern codified laws and rules. Consequently, there has been an urgent need for legal professionals, who have the expertise and the skills to analyze and apply such laws. Therefore, several universities in Saudi Arabia have decided to offer such education and have introduced law bachelor degrees. However, due to the expansion as well as the advancement of the legal education internationally, the development of such education in KSA has been encountering several hindrances, making the progression slow and difficult and thus requiring more research about the development of the legal education as evolved by other countries.

2. Literature Review

The main aim of this research is to scrutinize the development of the legal education in KSA by examining how the supremacy of Sharia Law might have an effect on the study of law in general.

While there are several studies that have focused on the development of the legal education, only few have taken into consideration the effect of study of Sharia Law such as:

A. Dr. Ayoub Algarbough, "The assessment of legal education in the Kingdom of Saudi Arabia", a working paper presented at the Education and Learning Conference, which was held in the in January 2011 at Prince Sultan University. In this paper, the researcher has recommended the restructuring of the legal education in KSA by requiring the law graduates to acquire extensive knowledge of Sharia Law. This would be achieved by extending the duration of the degree to five years and introducing a foundation year, where the undergraduate would obtain sufficient understanding of Sharia Law and how it undermines all laws and decisions issued by the state. As a consequence, such graduates would be able to work in all legal fields and practice areas even the judiciary, while Sharia Law universities would still offer a bachelor in Islamic Law which would benefit those interested in academic career.

B. Rayan Alkhalawi, Legal education reform in Saudi Arabia: A Case study of Taibah University, Master Thesis, Indiana University Maurer School of Law, 2015.

The objectives of his research whether the current plan of Taibah University prepares its graduates to the opportunities available in the legal market. The tool of data collection was

based on the reviewing of curriculum regarding its up-to-date and it's not comprehensive , the qualification of the high school students based on selection and admission criteria and exchange program , in addition to criticize the background of the professors and the overall environment. He concluded that graduates are not able to succeed in the future legal work based on weakness in previous examined four elements, as the curriculum not following the realistic market applied in KSA, professor from different background where they were not assessed properly, and the lack of qualifications to the high schools students to join Taibah university.

One of the important reasons that the development of the legal education is considered as sensitive subject is due to the fact that some believe the legal specialization is a drift of Islamic Law and abandonment of Islamic law. Therefore, only few academic studies have researched the matter and most information could only be found in other kind of sources such as newspaper articles, websites and social media platforms. Those who advocate the advancement of the legal education development often come under attack from those who believe that such development undermines the power of Sharia Law.

Research problem

The main purpose of this study is to examine the importance of the development of legal education in the Kingdom of Saudi Arabia and how it is intertwined with the study of Sharia Law, leading occasionally to the confusion of the law student between the Islamic provisions and newly codified laws, as well as how future judges are required to obtain a certificate in Sharia and future lawyers are required to acquire a degree in law or Sharia.

Research Question

The main research question of this study is addressing the most important obstacles facing the process of developing legal education in Saudi Arabia.

3. Research Methodology

This study will be based on analytical research of legal education through the examination of the legal systems (constitutions, laws and codes) in the Kingdom of Saudi Arabia, as well as assessment of the degree plans and curricular of the various legal education institutions in the Kingdom.

Objectives of the study

This study aims to evaluate the legal education system in the Kingdom of Saudi Arabia by assessing the following:

1. The legal systems in KSA
2. The judicial systems in KSA
3. The legal practice in KSA
4. The structure of the legal education in KSA
5. The assessment of the degree plans and curricular of the various legal education institution
6. Implications of legal education system's fragmentation.

4. Finding and Discussion

Research Plan

1. The legal systems in KSA
2. Sources of legislation in Saudi legal system
3. The judicial system in KSA
4. The legal profession in KSA
5. Teaching Law in KSA
6. References

The legal system in Kingdom of Saudi Arabia

Since the Kingdom of Saudi Arabia was founded in 1932, its constitutional system has always been based upon the provisions of Islamic law, which is considered the supreme law that trumps all state's regulations, decisions as well as the ratified regional and international conventions.

The Basic Law of Governance of 1992 has validated this principle in many of its articles, such as article 7, which asserts: "Governance in the Kingdom of Saudi Arabia derives its authority from the Book of God, and the Sunnah of his Messenger, both of which govern this legal system and all institutions of the State ". Moreover, article 46 affirms as well that "the judiciary shall be an independent authority. There shall be no power over judges in their functions other than the power of the Islamic Shari'ah." In addition, article 48 states: " The courts shall apply the provisions of Islamic Shari'h to all cases before them, as indicated by the Qur'an and the Sunnah, and all laws issued by the ruler which are in conformity with the Qur'an and the Sunnah ". Finally, article 67

affirms that "the regulatory authority shall have the power to promulgate laws and rules, which are conducive to the realization of common good or warding off harm to State affairs in accordance with the principles of the Islamic Shari'ah. It shall exercise its jurisdiction in accordance with this Law, and Laws of the Council of Ministers and the Shura Council"

The Shura Council established by Royal Decree in 1992¹ affirmed the same principle, as stipulated in Article 2: "*The shura council shall hold fast to the bond of Allah and adhere to the sources of Islamic legislation. All members of the shura council shall strive to serve the public interest, and preserve the unity of the community, the entity of the State and nation interests..*"

Sources of legislation in Saudi legal system

As previously stated, article 48 asserts that "the courts shall apply the provisions of Islamic Shari'h to all cases before them, as indicated by the Qur'an and the Sunnah, and all laws issued by the ruler which are in conformity with the Qur'an and the Sunnah". Examining this statement, it is evident that such principle might lead to a conundrum. It is not clear whether, in case of disputes, the judge is obliged to utilize the written laws applicable to the cases or has the power to ignore such modern rules and follow the provisions of Sharia Law, upon his discretion.

Taking the commercial law as example, which is the oldest written law in KSA and was promulgated as the Law of Commercial Courts in 1970. The problems that arose when such law was issued are firstly there are specialized judiciary that would adjudicate over commercial dispute according to the 1970 Law and secondly the Saudi judges have their expertise on Sharia Law, which will be discussed in more details later in the research. Most importantly, there are number of judges who refuse to apply positive laws, since they believe that such laws are man-made and prohibited by Sharia and must apply the basic provision of Islamic law. Therefore, the state has established the so-called "quasi-judicial committees", which are in fact administrative committees that are are specialized in adjudicating disputes related to commercial or financial matters. The existence of such committees is considered to be important because firstly it leads to the rapid dispute resolution due to the competence and specialization of its members and secondly and

¹

<https://www.shura.gov.sa/wps/wcm/connect/ShuraEn/internet/Laws+and+Regulations/The+Shu>

[ra+Council+and+the+rules+and+regulations+job/Shura+Council+Law/](#)

most importantly, because it resolves the problems that usually arise when the judges refuse to apply newly codified laws and resort to customary Sharia provisions.

Examining the written laws in Saudi Arabia, such as the Judicial Code of 2006, Labor Law of 2004 legal and court proceedings of 2014, criminal procedures of 2014, it is evident that none of these codes and laws include the legislative sources. The only exception is the Labor Law, where article 223 asserts that “none of the organs of these institutions has the power to issue any codes claiming that there is a lack of procedure or law and must draw upon the principles of Islamic law and rely either on case law, custom or the rules of justice”. Nevertheless, this article did not establish the hierarchy of the sources, leaving it to the discretion of the judicial body. Moreover, when handling labor disputes a body formed by the Minister of Labor would be responsible over adjudication rather than a regular competent court to adjudicate over such disputes.

In the light of the above, due to supremacy of Sharia law over state’s regulations, decisions as well as the ratified regional and international conventions one can assert that all future legal professionals such as lawyers, advisors, judges and legislations must obtain the education and qualification to have sufficient knowledge and understanding of both Sharia Law and codified positive laws.

The judicial system in KSA

The new judiciary system was developed in 2007 to replace the old of 1975 and is considered a positive step in the reform of the judicial system in KSA. One of the notable advancement is the development of the two-tier litigation system. Other progress perceived are firstly the evolution of Supreme Court of Justice, which was established to ensure the adequate implantation of the law, and secondly the development of competent courts Article 9² “courts shall consist of the following:

1. The Supreme Court
2. Courts of appeals
3. First instance courts, which are:
 - a. General courts
 - b. Penal courts
 - c. Family courts
 - d. Commercial courts

² Bureau of experts at the council of ministers,
<https://www.boe.gov.sa/ViewSystemDetails.aspx?lang=en&SystemID=131&VersionID=160>

e. Labor courts

Each shall have jurisdiction over matters brought before it in accordance with this law, the law of procedure before sharia courts and the law of criminal procedure.

The supreme judicial council may establish other specialized courts upon the approval of the King.

Qualification of Judges (conditioned by a degree in Sharia Law)

To be appointed as a judge, a candidate shall fulfill the following requirements:

- (a) He shall be of Saudi nationality by descent.
- (b) He shall be of good character and conduct.
- (c) He shall be fully competent to hold the position of a judge in accordance with Sharia.
- (d) He shall hold the degree of one of the Sharia colleges in the Kingdom or any equivalent degree, provided that, in the latter case, he shall pass a special examination to be prepared by the Supreme Judicial Council.
- (e) He shall not be less than forty years of age if he is to be appointed to the rank of an appeals judge, and not less than twenty two if he is to be appointed to any other rank in the judiciary.
- (f) He shall have not been convicted of a crime impinging on religion or honor or been the subject of a disciplinary action dismissing him from a public office, even if rehabilitated.

Examining the fourth paragraph of the above mentioned article, one must note that to qualify as judge, he is required to obtain a qualification in Sharia Law or equivalent. As mentioned earlier in this paper, the highest source of law in KSA is Sharia law, and not all laws are codified. For example, the Civil Code and the Penal Code are not codified, and they rely on the provisions of Islamic law, yet the Code of Civil Procedure and the Code of Criminal Procedure, are very important procedural laws in the legal system. Therefore, the fact that the judge has only legal qualification in Sharia and is not sufficiently familiar with the procedural laws leads to the weakness of the application of the law. In many cases, these laws are not properly applied by the Saudi judiciary³ because of the lack of the expertise of judge in procedural laws.

³ Ayoub Algarbough, “The assessment of legal education in the Kingdom of Saudi Arabia”, a working paper presented at the Education and

The legal profession in KSA

The legal profession is an emerging profession in the Saudi society, and has no significant effect in the courts. The Saudi procedure for lawyers was issued in 2001. The third article⁴ stipulates the conditions for practicing law in KSA: among these requirement is that the lawyer must a bachelor's degree in Sharia. However, as mentioned earlier, since the lawyer will have only enough comprehension of Sharia and will not be familiar with the modern laws, this leads to the weakness of the overall legal structure and the overpowering of judicial rulings.

Teaching Law in KSA

The first department of law was established in Saudi Arabia under the name of the Regulations Department at King Saud University in 1980⁵. It was one of the departments in the Faculty of Administrative Sciences. In 2006, the Regulations Systems and the Political Science Department in the Faculty of Administrative Sciences was transferred to an independent college of Law and Political Science. This department offers a bachelor's degree in law, where the admission was opened for both boys and girls. Years later, the second Regulations Department was established in the Faculty of Management and Economics⁶ in King Abdul Aziz University in Jeddah in 1987. This department offers a bachelor's degree in law as well. In 2012, the department was transferred to an independent college under the name of the Faculty of Law.

In the past ten years, many Saudi universities have been established. The number of public universities in Saudi Arabia is now 27, distributed among different regions of the Kingdom, in addition to 10 private universities, many of which offer law undergraduate programs. Some universities offer such degree under the College of Sharia and others under the Faculty of Business. It is noteworthy only recently that such departments or colleges have been established under the name of the Faculty of Law, and were previously named the Department of Regulations because of the belief that the term Law should not be since it composed man-made laws, contrary to the provisions of Islamic law. Significant development is evident in the current alternation of the names of the departments as colleges of law. Another noticeable progress is

the fact that such colleges allow the admission of males and females, where a large turnout of females interested in studying law is noticeable, since courts recently started to accept the presence of female lawyers in the corridors, while many still do not accept females' lawyers.

Degree Plans of Law Programs in KSA

The law degree plans in the Saudi universities are highly influenced by legal education in Egypt, Jordan and France. Most of the degree plans are fairly similar in terms of the number of credit hours, duration and the nature of the courses they offer. The Sharia courses offered, alongside the other law courses, depend on the department/college but usually do not exceed 15% of the total. For example, there are basic Sharia courses taught in all departments of law such as: Principles of Jurisprudence, Rules of Jurisprudence, Family Law, Rules and Inheritance, Zakat, Sharia policies.

When examining the law programs in KSA, one can find the main problems relies in the Civil law and Criminal law courses. As mentioned above, these laws are not codified in Saudi Arabia, so they depend on the Islamic Sharia. However, since the law colleges rely on the plan of other countries, such courses will be offered with same content and syllabi that are influenced by the Latin legal system, such as Jordan and Egypt. Moreover, another issue is the fact that a huge number of teaching faculties in the law colleges in KSA are of different Arab nationalities, who have bachelor's degrees in law and do not have extensive knowledge in Islamic law and consequently affecting the students' comprehension and understanding of Sharia.

5. Conclusion

Examining the findings of this research, one can assert that the fundamental problem in the legal education in Saudi Arabia is due to its unique system that combines Islamic law that is considered supreme with written codified laws and regulations, which has led to confusion in the education system.

According to the researcher, to develop the legal education in the Kingdom, it is necessary to carry out comprehensive reforms of the legal system, the legal practice structure and the judiciary system.

Learning Conference, which was held in the in January 2011 at Prince Sultan University, p 30.

⁴ Bureau of experts at the council of ministers

<https://boe.gov.sa/printsystem.aspx?lang=ar&sytemid=126&versionid=156>

⁵ <http://clps.ksu.edu.sa/en>

⁶ <http://www.kau.edu.sa/Home.aspx>

For the sake of positive solutions leading to the development of legal education in Saudi Arabia, the researcher recommends the following:

1. There must be clear and explicit legal provisions that force the judiciary to apply the written laws, which do not violate the provisions of Islamic law. It should not be left up to the judge's discretion to decide which to choose between Sharia provisions and written laws.
2. There must be reform of the judicial system in the Kingdom, since the new judicial system was founded ten years ago and has not yet been fully implemented, especially with regard to the development of specialized courts.
3. The judges of the specialized courts shall be holders of the certificates of both modern laws and Shari'a to be able to apply the laws adequately.
4. Amendments to the legal practice are required so that only holders of legal certificates can practice the profession of law. The holders of Shari'a certificates are allowed to practice the profession of law only in matters of legality, which are adjudicated according to the provisions of Islamic law. Certain merit must be created to be to obtain a certificate of practicing the profession of law. Therefore, those who are holders of certificate in law must be familiar with Sharia law provisions and the holders of the certificate of Sharia must acquire the knowledge of the legal subjects necessary for the proceedings, such as

procedural laws (legal proceedings, criminal proceedings).

5. Developing educational curricula in law faculties that are on par with developments in the local and international community.
6. Teaching Sharia courses in law schools in line with the developments and therefore not keeping traditional curricula.

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INDONESIA CORRUPTION MUSEUM (ICM): AS AN ANTICORRUPTION EDUCATION LEARNING RESOURCE FOR THE COMMUNITY TOWARD CULTURAL INTEGRITY OF NATION

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Corruption is a crime that might ruin the integrity of the nation and threaten national stability. According to *transparency.org*, Indonesia ranks 90 corruption clean country. Several attempts have been made by the government to eradicate corruption in Indonesia and one of them is through KPK. Though KPK is still working to overcome many corruption cases but Indonesia is not going better at all. The Government effort should be supported from many different areas, particularly from anti-corruption education. The effectiveness supporting education requires the existence of a learning resource. Giving education for people could be expressed with interesting and informative educational learning. ICM (Indonesia Corruption Museum) comes as a solution for preventing the criminal offence of corruption in Indonesia. ICM is a museum education which provides many crimes of corruption case, the corruptors and their debt, the cause -impact of corruption, and moral messages packaging simplicity that easy to understand for all ages.

Keywords: corruption, anti-corruption education, museums of corruption, learning resources, cultural integrity of nation

1. Introduction

Criminal acts of corruption is a crime that can ruin the integrity of the nation and threatened national stability (Aerlang, 2016). This led to the system of Government did not go well. Why is said to be the case, for the criminal offence of corruption already extends to vital sectors such as Executive, legislative power even the judiciary. An example is the alleged cases of corruption in the judiciary involving Patrialis Akbar as Chairman OF Mahkamah Kontitusi (MK). The case is the second case after the Chairman of the Constitutional Court earlier on behalf of the Akil Mokhtar has become a suspect of the crime of corruption (Tribunnews.com, 2017). Such events is a threat to the nation because of the integrity and existence of the judiciary that became the estuary in search of Justice will be in doubt.

According to the corruption perceptions index (CPI), which is quoted from the International Transparency by 2015 (www.transparency.org, 2016), Indonesia has a GPA low score in list order of the country clean from corruption. The low GPA score shows that still spread over the extent of bribery, public institutions that do not respond to people's needs, as well as the lack of public knowledge against the criminal acts of corruption itself (Transparency.org, 2016). In the year 2016

Indonesia ranked 90 of 176 countries with 37 GPA. Indonesia still lags behind with other Asean countries in Malaysia such as (50 GPA), Brunei (GPA of 58) and Singapore (IPK 84). A third of the country has a higher ranking for berintegritas Government free from corruption.

Based on the above phenomenon, the next Government in the era of President Jokowi Dodo do accelerating the eradication and prevention of corruption through the signing of the presidential instruction (presidential instruction) no 7 by 2015, about Action Prevention And Eradication Of Corruption (APPK). The presidential instruction is a translation of the Peraturan Government (PP) number 55 in 2012 about the national strategy for the prevention and eradication of corruption is a long-term, shortterm and 2012-2025 2012-2014. Do not stop until there is reform of the bureaucracy, denial of criminalization against KPK and mental revolution also became the main focus of the Government in preventing the existence of the criminal offence of corruption (Presiden.go.id, 2015).

The presidential instruction to respond to the corruption eradication Commission (KPK) do some criminal acts of corruption prevention strategies through socialization, campaigns, as well as anti-corruption cadre recruitment. Nevertheless, the effort is far from optimal, because the education provided is not contextual,

sustainable, and thorough. Education is only conducted in big cities only because of limited human resources. As a result many strategic goals have not been achieved as the younger generation and the kids that are in the area. (LAKIP KPK, 2015).

Based on the description of the problems above, the author seeks to offer an idea of the idea in the form of **INDONESIAN CORRUPTION MUSEUM (ICM): AS a SOURCE of LEARNING for the COMMUNITY TOWARDS EDUCATION ANTI the CULTURAL INTEGRITY of the nation.** the establishment of the Indonesia Corruption Museum is expected to help the Government especially the KPK in anticorruption education effectively to the public especially the young generation and their children.

Formulation of the problem

How the concept of Museum Indonesia Corruption as a learning resource solutions effective anti-corruption education for society in Indonesia

The purpose

This paper aims to formulate a concept of Museum Indonesia Corruption as an alternative solution learning resources effective anticorruption education for communities in Indonesia.

Benefits

The idea of student creativity programs written in this idea is as follows.

- Assist the Government in preventing the occurrence of the crime of corruption throughout Indonesia.
- Help the KPK in manifesting the cultural integrity of the nation via the ICM as a learning resource.
- Assist the Government in realizing the younger generation through the implementation of anti-corruption ICM as an effective learning resources in anticorruption education.

2. Methode

Data Collection

Writing scientific papers using the method of the study of the literature based upon the results of a study of the literature that has been tested validitasnya, relate to each other, are relevant to the study of the writing as well as supporting the description or analysis of the discussion.

Data Analysis processing of data in a systematic and logical to use analytical

techniques descriptive argumentative, and descriptive in nature, describing and analyzing the potential of the ICM as a learning resource in anticorruption education the community.

How to Conclusion

After the analysis process, conducted the process of synthesis with the compile and link the formulation of the problem, the purpose of writing and discussion. The next drawn conclusions are General then recommended a few things in an effort to transfer the idea.

3. Discussion

Learning resources

Education cannot be separated from the activities of the study. To gain individual skills either in cognitive,

psychomotor or affective. The expansion of the education revolution demands the traffic of students in solving problems arising from both the everyday lives of the learners as well as the social environment community learners as

well as corruption. The problems that often arise in consequence of the education revolution is the existence of a wide range of resources for learning needs to be designed and optimized (Alimah, 2016).

Learning resources are materials that include media studies, props, games, tools to provide information as well as a wide range of skills to the children as well as adults who accompany the children in the study (yunanto, 2005). Beside that, Warsito (2008) the source also revealed that the system is comprised of materials or situation created intentionally and are made so that the students can learn along with individually.

Based on the type or origin, AECT in Komalasari (2010) dividing the study into two sources: (1) learning resources by design i.e. learning resources that are specifically designed for or developed to achieve specific learning objectives the textbook example, module, dvd pembelajaran, and others. (2) learning by learning resource utilization that is already available and can be directly utilized a learning resource that is indirectly designed or developed for learning purposes but can be chosen and utilized for learning. Examples of newspaper, broadcast television, and others.

Learning resources can be grouped into a message, people, materials, tools, techniques, environment. Messages: messages can be plain,

meaning, facts. Either written or presented through the media. People: mean people here are people who are involved in the delivery of information good writers, lecturers, teachers, experts, media

and procedures etc. Material: material that is a group of tools are often referred to as software. Materials serve as a repository of information or messages before the message is disseminated using a tool that has been designed. So the material can be written text, print, web, electronic recording, and

others that can be used as a source of learning. Tools: tools that dimaksudkan is a hardware device that can convey the message contained on the materials. The tool serves to present the study materials. Where is the learning resources can be a computer, a camera, a radio television, tape recorder. LCD. The method: the method is a procedure of raw or the guidelines that are used to deliver the message. In other words, the method is the way that people use in their activities in the implementation of learning subutilization of learning resources. Environment: is a place that can be used as a source of learning, for example, library, market, museum, mountain streams, ponds, etc. (Butcher, 2006).

Based on the above classification then learning resource has several functions, namely (1) can save you time learning so as to reduce the burden on educators in presenting information. So the time available can be used for learning enrichment. (2) provide a learning can be a group as well as the improvement of the skills of learners in developing bersosialisai ability. (3) the use of the learning resources provide a scientific attitude and to students with planning a systematic learning and implementation of learning that are ilmiah. (4) memungkinkan are contextual learning because students can come into contact with a source of learning. (5) the use of the learning resources can provide learning that is broader and is not limited to, geographic boundaries that can penetrate because the learning process can be done anywhere as long as there are learning resources (Abdullah, 2012).

As an important component of the teaching and learning process in learning resources are some of the benefits;

- a) Provide learning experiences directly so as to accelerate the understanding of learners.

- b) Presents something that cannot be found in the learning in the classroom-for example: museums
- c) provides positive motivation when properly planned and systematic.
- d) Spurred scientific and critical attitude in accordance with the data and facts contained on the learning resources

(Syukur, 2008)

A good source of learning is the learning resources that are designed with the needs of, efficiency, effectiveness of their use. Therefore learning resources ideally is a learning resource that is safe, fun, easy to

obtain and use the most up-to-date and capable of providing the needed information (Holden, 2008).

ICM as an anti-corruption education learning resource.

Anti-corruption education is an important factor in the eradication of corruption in Indonesia. Yet the presence of anti-corruption education learning resource are contextually demands the existence of a solution in providing such education.

To facilitate anti-corruption learning pelaksanaan then diperlukanya an effective learning resources so as to facilitate the understanding of the people will be the danger of criminal acts of corruption. Indonesia Corruption Museum (ICM) is a solution of the problem of anticorruption education in Indonesia. Learning resources in an interesting design in the ICM and contextual for raising awareness and understanding of the public about the criminal acts of corruption in Indonesia.

Basically the corruption comes from everyday actions like cheating, lying, accepting bribes on a small scale, the giving of information about corruption through ICM already appropriately to be implemented. the people of Indonesia has the right to know the information is valid and reliable about the corruption going on. So that people would be more mengetahui, understand and care about the danger of corruption in Indonesia and then all the people of Indonesia will matter together in a joint anti-corruption movement to proud KPK and other anticorruption institutions.

Increasing knowledge and awareness on corruption will essentially improve a GPA of Indonesia and criminal acts of corruption can be suppressed. Such is the case that occurred in Hong Kong. Anticorruption education

implemented in Hong Kong since 1974 has proven successful with ranking hongkong being ranked 15 of 176 countries with 77 GPA in 1974 after Hong Kong became one of the world's corrupt countries (Montessori, 2012).

The widespread criminal acts of corruption to various areas in Indonesia give consequences is need for anti-corruption education extensively in various settlement in Indonesia. In an effort to help the KPK in disseminating anticorruption education thoroughly then Indonesia kedepanya Corruptor Museum will be built in various cities in Indonesia. With the anticorruption education in Indonesia in a comprehensive manner then the prevention of criminal acts of corruption effectively will be achieved so that the cultural integrity of the Nations will be realized.

The Concept Of Museum Indonesia Corruption.

As a source of learning an effective anti-corruption education Museum in the wake of Indonesia's corruption with the concept is interesting and educational. The selected design in the making of the museum this is Indonesia's corruption with the architecture of the head of a rat. In addition to attract tourists with such architecture can make a reminder of the dangers of corruption to the people of Indonesia.

As a learning resource that is efficient and informative then museum of corruption in Indonesia will wake up with some floors that are designed with the function of each of the different floors. The visitors of the museum will explore the museum through an educational journey that started from the 1st floor. Visitors will be presented a variety of facts and cases of corruption in Indonesia. Painting and sculpture of the corruptor. Complete data on corruption cases, punishment, arrest, liberation as well as the loss of the State can be seen in the real by visitors. In addition information on outstanding corruption cases with the largest amount of losses, Indonesia's corruption Ranking in the world, as well as data loss impact on countries that annually can also be seen on the 1st floor.

The 2nd floor is the floor of the education. Visitors will find information on the reasons for the occurrence of corruption. Starting from daily activities such as cheating, lying, skipping school and living style of hedonism. Once satisfied with the cause of the corruption. The appearance of information on law not criminal corruption, anti-corruption and the introduction of a book about gratuities can be enjoyed by visitors on the 2nd floor.

The 3rd floor is the floor action. At this time will be presented some educational games corruption eradication, a short film about the history of the eradication of corruption in Indonesia and also various ways of eradicating corruption in different parts of the world. After that the pengunjung will be served with posters or pictures of interesting on what can be done to eradicate corruption in Indonesia. Travel with informative and educative museum are expected the visitors can take lessons about cause and prevention solutions that can be implemented in daily life.

4. Conclusion

Realization of the existence of Corruption Indonesia Museum is an effective solution in providing the anticorruption education to society especially children and young people. The concept and design of the Museum is interesting and easy to understand can boost the spirit of the young generation to counter criminal acts of corruption in Indonesia. the creation of the anti-corruption generation will ultimately create a culture of integrity of Nations towards Nations that Indonesia has integrity.

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ANALYSIS OF VOCATIONAL HIGH SCHOOL STUDENTS' ENGLISH-LEARNING MOTIVATION AND ENGLISH NEEDS (STUDY AT VOCATIONAL HIGH SCHOOLS IN SEMARANG)

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Abstract

This study focused on identifying vocational high schools students' English-learning motivation and their needs for general English courses. To achieve this, qualitative approach was used as the method of this study because it provides a general picture of the research. The data were collected by using three techniques, those are observation, interview, and survey. Observation was conducted to examine the process of English teaching in five vocational high schools. Face-to-face interview was done with English teacher of the schools in order to investigate the teachers' perception toward English teaching, students' enthusiasm, motivation, and needs. Meanwhile, survey was completed by distributing 150 questionnaire to the students with the return rate of 100%. In all, there were 2 English teachers and 150 students from different vocational high schools (SMK), those are SMK Negeri 11 Semarang, SMK Teuku Wisnu, and SMK Jateng Semarang, coming from different grade years and different majors served as the subjects of the study. It was found that passing exam and fulfilling job requirement became the highest motivations of students to learn English. The result revealed that students with high motivation of learning English tended to be more interested and active during English learning, develop autonomous learning, and gain better achievement in English test. In addition, need analysis showed that students demand general English for communication, English for job requirement, fun learning by teachers, and speaking skill. There were also slight differences between students' expectations and teachers' view. It was suggested that English teaching focus on the learner and the development of English curriculum correspond to the needs of the students.

Keywords: vocational high school, English-learning motivation, need analysis

1. Introduction

In Indonesia, vocational high school (SMK) is one of the secondary schools equal to senior high school (SMA). However, the main difference among them is on their goals. Vocational high schools focus more on the practice rather than theory and prepare students for work instead of higher education.

According to government regulation 17/2010 article number 76, vocational high schools intend to facilitate students with knowledge and technology as well as vocational skills of the related professions. In other words, students of vocational high school are prepared to enter the world of work and make them able to survive and succeed in the work challenges. To achieve these goals, it is needed profession competence and personal competence of the students.

In order to fulfill the needs of personal competence, language proficiency must be improved. This requirement is also triggered by the implementation of ASEAN Economic Community since 2015, in which all trades of

goods, services, capitals, and investment can move around ASEAN countries without any significant difficulties. Therefore, vocational high school students, who will be jobseekers after graduating from schools and will compete with other graduates from various background and country, undoubtedly should prepare themselves with necessary language, in this case English.

In vocational high schools, besides Indonesian and traditional language, English is given as compulsory subject. This can be seen through the teaching of English in grade 10, 11, and 12 with two learning hours every week.

To lead English teaching to be successful, educational authorities, especially teachers and curriculum planners, should never ignore the level of students' motivation and their needs in learning English.

According to Guay et al (2010), motivation refers to reasons that underlie behaviours. It is characterized by willingness and volition. Keller (2008a) categorized two levels of motivation. The first one is about "will", which refers to a person's intentions, wants, or purposes with a

belief to achieve them. Meanwhile, the other level is when “will” is converted into action. With those roles, motivation can influence what we learn, how we learn and when we choose to learn (Schunk and Usher 2012).

In learning process, motivation is a crucial element because motivated learners are more likely to be involved in challenging activities, be actively engaged, enjoy and adopt a deep approach to learning and showed performance, persistence and creativity which are gradually enhanced, (Ryan and Deci, 2000).

Previous research suggested that motivation can be manipulated by doing certain instructional efforts. In changing motivation, ones can use rewards, by either encouraging or diminishing motivation, depending on the type of rewards and the context. Tsao (2008) defined motivation as the combination of motivational orientation and motivational intensity. The former refers to the reasons that the learner hold for learning, and the latter means the efforts that the learner do.

Keller (2008b) suggested that motivation to learn is increased and maintained when learners apply volitional strategies to keep their intentions. This implies that after becoming motivated to achieve a goal, it is necessary to persist in one’s efforts to achieve it. In this paper, those efforts are called motivational intensity.

Frendo (2012) advised that needs analysis is quite fundamental in learning English, especially in vocational high schools. Teachers in vocational high schools need to make sure that the teaching is as effective and efficient as possible based on the specific purposes vocational high schools. Hopefully, the teaching is not just about teaching English, but it is about teaching the specific English the students need to use successfully in their chosen field. With this importance, this paper also aimed to identify the students’ need in learning English.

Vocational High School (SMK) is one form of formal education units that provides vocational education in secondary level. Besides Vocational High School (SMK), there are also Madrasah Aliyah Kejuruan (MAK), or other similar forms [Law of National Education System (Sistem Pendidikan Nasional) Number 20 Year 2003]. According to the Central Bureau of Statistics (Badan Pusat Statistik) data in the academic year 2014/2015 there are 12,421 schools and 4,211,245 students.

The application of English subjects for Vocational High Schools is set forth in the regulation of Ministry of Education and Culture of the Republic of Indonesia (Kementerian Pendidikan dan Kebudayaan, Republik Indonesia, 2013) 70 /2013 concerning basic

framework and curriculum school structure. English is included in compulsory with a time allocation of 2 lesson-hours per week.

Chen (2008) suggested that motivation with the infusion of cooperative learning instruction in an English as a Foreign Language (EFL) classroom at a vocational high school in Taiwan for low-achieving language learners in Taiwan is ideal when the teacher (a) practices constructivist pedagogy, (b) builds a caring EFL classroom, and (c) implements reflection and action research in the EFL context.

Another research conducted by Tsao (2008) showed that although college students of Technological University Students in Taiwan generally show interest in English and acknowledge its importance, they spend less than enough time and efforts studying it out of class and usually rely on classroom instruction as the only channel of learning; rarely do they have an autonomous type of learning out of class. One of the factors causing these conditions is the lack of students’ motivation.

According to Faridi et al. (2016), there was a highly need of a model of student-centered syllabus for being a guideline in designing their syllabus so they can design and adapt their syllabus matched with their students needs in vocational high schools. Moreover, they also need a teacher development program such as seminars and workshops to train them the ways to implement the student-centered syllabus successfully in their teaching with the majority of the students were passive during the lessons.

As a follow up of previous research, our research will focus on motivation and needs analysis of vocational high school students on English subjects. Overall, this study attempted (1) to measure how motivated vocational high school students are in learning English, (2) to identify vocational high school students’ motivation in learning English, and (3) to analyse vocational high school students’ needs in learning English.

2. Method

In order to achieve the goals and to answer the questions of this research, the qualitative approach was used because it provides general picture of vocational high school students’ motivation and need analysis in learning English. It has long been used to probe the perceptions of a group concerning a particular phenomenon (Babbie, 1990).

The data were collected by employing three kinds of data collection techniques, those are observation, interview, and survey. Observation

was conducted by the researchers to investigate the process of English teaching at vocational high schools. A face-to-face interview was conducted with the English teacher of the three schools. It aimed to investigate the teachers' perception toward English teaching, as well as the students' enthusiasm, motivation, and needs in English learning. Moreover, further information on English curriculum used by the teachers were explored.

The questionnaire was distributed to investigate both the opinion of the respondents about their feeling, their motivations, and their needs in English learning. It consists of 30 scaled questions showing the degree of students' agreement in a five-point scale. Point 1 indicates

that the respondent is strongly disagree, point 2 is disagree, point 3 is neutral, point 4 is agree, and point 5 is strongly agree.

The population of this study was students from three vocational high school in Semarang, Indonesia, those are SMK Negeri 11 Semarang, SMK Teuku Wisnu, and SMK Jateng Semarang. Meanwhile, the sampling technique used was cluster random sampling. In all, 150 questionnaires were distributed to the students, with a return rate of 100%. The demographic characteristics of the respondents are presented in Table 1.

Table 1. Demographic Characteristics of Participants Surveyed

	Characteristics	Count	Percentage
Gender	Male	66	44%
	Female	84	56%
Grade	Ten	46	31%
	Eleven	65	43%
	Twelve	39	26%
Majority	SMK Negeri 11 Semarang		
	Graphics Preparation	11	22%
	Graphics Production	8	16%
	Multimedia	17	34%
	Animation	14	28%
	SMK Negeri Jawa Tengah		
	Industrial Electronics Engineering	8	16%
	Electric Power Installation Engineering	7	14%
	Mechanical Engineering	10	20%
	Agricultural Processing Engineering	5	4%
	Automotive Body Engineering	6	24%
	Automotive Light Vehicle Engineering	9	6%
	Business Engineering Construction and Property	5	16%
	SMK Teuku Umar Semarang		
	Office administration	7	14%
	Accounting	13	26%
	Marketing	8	16%
	Software engineering	10	20%
	Light Vehicle Engineering	12	24%

Data gathered through observation were then identified into some categories. Data from interview was analyzed by adopting Spradley's four-step analysis method, those are (a) domain analysis to obtain descriptive view, (b) taxonomy analysis to focus the interview result based on the purpose of the study, (c) component analysis to deepen the interview result, and (d) theme analysis to understand the whole problems

studied in this research (Moleong, 2007). Then, the data from questionnaire were calculated based on its point, so that the final score will be an integrated score.

From the data analysis, there was reduction to put away unnecessary information. The data were then presented in form of table, percentage, and graphics to draw conclusions.

3. Results

There are two kinds of students' motivation examined in this study, those are motivational

orientation and motivational intensity. The result of questionnaire on students' motivational orientation is presented in

No	Item of Motivational Orientation	Scale				
		5	4	3	2	1
1	Compulsory subject	25	42	59	21	3
2	Success in National Exam	68	42	33	7	
3	Job requirement	20	34	57	27	12
4	Communication with foreign people	31	26	63	19	11
5	Knowledge enrichment	65	45	15	17	8
6	Work abroad	68	42	33	7	
7	Interest in English	34	46	52	1	17
8	Mastery of English terms in other subjects	27	61	51	9	2
	Total	330	353	349	115	53
	Total in percent	27.5%	29.4%	29.1%	9.6%	4.4%

Table 2.

Table 2. Students' Motivational Orientation

Table 3. Students' Motivational Orientation in Integrated Score

No	Item of Motivational Orientation	Integrated Score	In percent
1	Compulsory subject	515	11.73%
2	Success in National Exam	621	14.14%
3	Job requirement	473	10.77%
4	Communication with foreign people	497	11.32%
5	Knowledge enrichment	592	13.48%
6	Work abroad	613	13.96%
7	Interest in English	529	12.04%
8	Mastery of English terms in other subjects	552	12.57%
	Total	4392	100%

Table 4. Students' Motivational Intesity

No	Item of Motivational Intensity	Scale				
		5	4	3	2	1
1	Using English in daily life	7	38	63	21	21
2	Participating actively in classroom teaching	10	35	53	15	37
3	Asking questions to the teacher	9	14	60	43	24
4	Studying English regularly at home/dormitory	18	17	62	29	24
5	Doing homework thoroughly	30	24	51	23	22
	Total	74	128	289	131	128
	Total in percent	9.9%	17.1%	38.5%	17.5%	17.1%

Table 5. Students' Motivational Intesity in Integrated Score

No	Item of Motivational Intensity	Integrated Score	In percent
1	Using English in daily life	439	20.5%
2	Participating actively in classroom teaching	416	19.5%
3	Asking questions to the teacher	391	18.3%
4	Studying English regularly at home/dormitory	426	20%
5	Doing homework carefully	467	21.8%
	Total	2139	100%

Table 6. Students' Needs

Category	Item	Integrated score	Percentage
Types of English taught	Technical English	517	25%
	Academic English	488	23%
	Literacy English	512	25%
	General English	571	27%
Teaching objectives	Communication competence	607	34%
	Prepare job requirment	563	32%
	Prepare future education	610	34%
Qualities of English teacher	Make learning fun	677	38%
	Care	665	37%
	Based on worksheet and textbook	463	26%
Language skills	Listening	610	25%
	Reading	594	24%
	Speaking	656	27%
	Writing	610	25%
Basic English ability	Pronunciation	621	26%
	Grammar	570	23%
	Spelling	625	26%
	Vocabulary	613	25%
	Total	10627	

4. Discussion

As shown in the Table 2, there are 8 items about motivational orientation that are addressed in the questionnaire. From the table, 29.4% respondents in average agree with motivational orientation the researcher asked. The other

29.1% of the repondents neutral. 27.5% are strongly agree. Meanwhile, 9.6% of them do not agree with, and only 4.4% strongly disagree. Motivational orientation of the students is then explored further by calculating integrated score. Integrated score for each item is presented in Table 3.

In the Table 3, based on the result, the respondents revealed that the highest item of motivational orientation of the students in English learning is to be successful in National Exam for English subject. It represents 14.14% of the total respondents. In Indonesia, English becomes one of the compulsory subjects tested in National Exam. Therefore, this undoubtedly motivates students to learn English.

The next two highest items are working abroad and enriching knowledge. On the other hand, the lowest item of motivational orientation is to fulfill job requirements, which takes only 10.77% respondents. One factor causing this result is most of the jobs for vocational high school graduates do not require applicants to master certain level of English proficiency.

Meanwhile, motivational intensity, as presented in Table 4, 38.5% respondents conveyed that they are neutral, meaning that in average, they have less effort to promote their motivational orientation. The similar percentage (17%) goes to point of agree, disagree, and strongly disagree. These conditions can be a reflection for teachers and curriculum planners in the related schools to apply some strategies, so that students' motivational orientation can be achieved.

In the Table 6, the result showed that the highest item of motivational intensity of the students in English learning is doing homework carefully (21.8%). This implies that the students are lack of the awareness in studying independently because they still depend on the homework given by the teacher. The next highest item is actively using English in their daily life. This can be in form of listening to English music and movies, speaking to their friends, and writing status in social media. It represents 20.5% of the total respondents. The next item (20%) are studying English regularly outside classrooms. This can be motivated by the homework given. Moreover, in Indonesia, English becomes one of the compulsory subjects tested in National Exam. Therefore, this undoubtedly motivates students to learn English.

Meanwhile, the lowest item of motivational intensity is asking questions to the English teacher during teaching. According to seven learning activities in 2013 Curriculum (observing, questioning, experimenting, associating, communicating, and creating), it seems that that questioning activity needs to be promoted.

As shown in Table 6, As shown in the table, there are 4 differences category in the needs analysis. Which are types of English taught, teaching objectives, qualities of English teacher,

language skills and basic English ability. Most of the participants in types of English taught want know English in generally. which means that they have not experienced a lot of English and need basic of English language. However, there is no many differences percentage between the three other items.

In the teaching objectives, preparing future education are the highest percentage. This may imply that many vocational high schools have willingness to continue their study in higher education.

In category of qualities of English teachers, the respondents revealed that they need fun English learning, including the media, methods, and technique of teaching in the classroom by the teacher.

Regarding language skills, speaking becomes the skill the students mostly want to master. The next skills are listening and writing with equal number, and the last one is reading.

The respondents are also addressed question about basic English ability. The highest ones to the lowest ones are are spelling, pronunciation, vocabulary, and grammar.

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AN ANALYSIS OF TEST ITEM IN TAHSINUL QUR'AN EXAMINATION USING RASCH MODEL

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Abstract

The specific aims of this study are (1) to know the item characteristics of Certification exam in personality development program and Tahsin Al Quran that is used to be the requirements in proffering munaqosah session in one of the islamic university in yogyakarta; and (2) to know the items that fits to Rasch model. There are 30 items used in this research in multiple choices and it tested to 295 participants with simple random sampling. The data gathered through documentation. Quantitatively, the data were analyzed using winstep 3.73 to estimate the item parameter. The results are; there are 5 items (16.67%) includes to difficult categorization, 10 items (33.33%) includes to average categorization, and 15 items includes to easy categorization. There are 25 items that fits to Rasch model and others' not. The reliability of this test is 0.98 then it's reliable.

Keywords : *Test item, Rasch model, Tahsinul qur'an*

1. Introduction

One of the educational support fund (Dana Penunjang Pendidikan) program in Tarbiyah and teacher training faculty of UIN Sunan Kalijaga Yogyakarta is in the field of personality development program and Tahsin Al Quran. It focused on personality development through tabaruk Qur'an approach and morality. To be more specific, it also increases and guides the university students intensively in understanding Qur'an. The background of establishing this program is started from the result of some speeches that is done by the lecturers about the condition in this faculty, especially in mastering Qur'an (Modul PKTQ: 2015)^[1]. PKTQ program aimed to all students in Tarbiyah and teacher training faculty with no exception. The implementation of this program has the authority with a certification who signed by the vice dean III, PKTQ is LKM that has the most responsibility in tarbiyah among others. The standardization of PKTQ program is showed by certification exam as a requirement of KKN and munaqosyah. A certification exam cannot be separated from examining students' ability in mastering the components of the passing criteria, and then it needs measurement and assessment process to know how well the students can master the standard competency in this program.

Theoretically, measurement is scoring determination activity in declaring individual circumstances systematically. In PKTQ, individual circumstances are the ability of each student to understand the rules of tajwid and be

able to memorize juz 30 of Qur'an. Instead, assessment is an activity of interpreting data from the measurement result. Measurement can be gathered from the examination process; in this case, certification exam is conducted to get a score. Then, the score will be interpreted as a result from assessment. Assessment focuses on the individual, so its decision is also for individual only. It will make each individual has the different result based on their own ability. For example in education, assessment focuses on the students' achievement. Meanwhile, in PKTQ certification exam has several assessment components, those are memorizing Qur'an juz 30, tahsin, and tajwid. These three components will be the area of assessing PKTQ for the students, which has to be done by the students through the written test, as we know that every assessment needs assessing instrument.

One of the assessing instruments in PKTQ certification exam is written test. A qualified test is a test that has tested the validity and reliability. The test in this certification exam has not already tested the validity and reliability yet, so its function as a measurement tool is suspicion to measure the understanding of tahsinul quran competency in FITK UIN Sunan Kalijaga. So, it needs to conduct a research to give some information about these items characteristics in certification exam. The objective of this research is to know the item characteristics of tahsinul quran certification exam in FITK UIN Sunan Kalijaga.

2. Method

This research used quantitative approach in analyzing items characteristics of tahsinul quran certification exam in FITK UIN Sunan Kalijaga on March 2017. It used simple random sampling in deciding the sample of the participants. The participants consist of 295 university students. The data gathered from documentation, in the form of worksheets and answer sheets of the students in certification exam. It is a written test consists of 30 items multiple choices and has four options. After that, the data will be analyzed by

using winstep 3.73 to determine the item characteristics and the fitness of each item to the model.

3. Findings and Discussion

The result of the item characteristics analysis used Rasch Model in this research will be explained below.

Reliability instrument

The data is analyzed by using winstep 3.73, here the output analysis:

Table 1. Output of summary statistics

SUMMARY OF 295 MEASURED (EXTREME AND NON-EXTREME) Person

	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	20.0	30.0	1.01	.49				
S. D.	5.0	.0	1.11	.17				
MAX.	30.0	30.0	5.14	1.84				
MIN.	5.0	30.0	-1.95	.41	.61	-2.7	.31	-1.8
REAL RMSE	.53	TRUE SD	.97	SEPARATION	1.83	Person RELIABILITY	.77	
MODEL RMSE	.52	TRUE SD	.98	SEPARATION	1.90	Person RELIABILITY	.78	
S. E. OF Person MEAN = .06								

Person RAW SCORE-TO-MEASURE CORRELATION = .97

CRONBACH ALPHA (KR-20) Person RAW SCORE "TEST" RELIABILITY = .80

SUMMARY OF 30 MEASURED (NON-EXTREME) Item

	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	196.2	295.0	.00	.16	.99	.0	.99	.1
S. D.	52.3	.0	1.13	.05	.14	2.4	.22	2.3
MAX.	289.0	295.0	2.12	.42	1.46	8.4	1.73	8.4
MIN.	84.0	295.0	-3.36	.13	.82	-3.9	.74	-3.1
REAL RMSE	.17	TRUE SD	1.12	SEPARATION	6.74	Item RELIABILITY	.98	
MODEL RMSE	.16	TRUE SD	1.12	SEPARATION	6.86	Item RELIABILITY	.98	
S. E. OF Item MEAN = .21								

Based on summary statistics table above, we know that *person reliability* value is 0.98 and the value of *Alpha Cronbach* is 0.80. The average score of students' ability can be seen from the value of *person measure*, that is 1.01, it means that the average score is higher than the logit score 0.0. It means that students' ability is higher than the item difficulty.

The value of *item reliability* is 0.98, it means that this instrument is extraordinary. The value of *person reliability* is 0.77, it means that it includes to sufficient category. Based on the value of *item reliability* and *person ability*, it can

conclude that the consistency of students' response is sufficient, but the quality of the items in this instrument reaches the extraordinary reliability because the minimal reliability score is 0.7. Based on the statement above, it can show that the person reliability and item reliability of the test is good. The *alpha cronbach* value shows that there is an interaction between person and items entirely. The *alpha cronbach* value is 0.80, it means that there is an interaction between person (students) and the items entirely are good.

Item difficulty

Table 2. Item Difficulty of Tahsinul qur'an Certification Exam
 TABLE 13.1 SOAL UJIAN PKTQ ZOU358WS.TXT Apr 18 13:56 2017
 INPUT: 295 Person 30 Item REPORTED: 295 Person 30 Item 2 CATS WINSTEPS 3.73

Person: REAL SEP.: 1.83 REL.: .77 ... Item: REAL SEP.: 6.74 REL.: .98

Item STATISTICS: MEASURE ORDER

ENTRY	TOTAL	TOTAL		MODEL	INFIT	OUTFIT	PT-MEASURE	EXACT	MATCH				
NUMBER	SCORE	COUNT	MEASURE	S. E.	MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.	OBS%	EXP%	Item
14	84	295	2.12	.14	.98	-.2	1.01	.2	.43	.42	75.3	75.5	I0014
28	90	295	2.00	.14	1.21	3.1	1.38	3.3	.23	.43	69.9	74.2	I0028
26	109	295	1.64	.13	1.12	2.1	1.20	2.3	.32	.43	66.8	70.9	I0026
17	138	295	1.14	.13	.82	-3.9	.80	-3.1	.57	.43	80.1	68.5	I0017
29	139	295	1.12	.13	1.14	2.7	1.21	2.8	.31	.43	64.7	68.5	I0029
23	147	295	.99	.13	1.00	.0	1.02	.3	.42	.43	67.1	68.3	I0023
21	148	295	.97	.13	1.05	1.0	1.08	1.2	.38	.43	66.1	68.3	I0021
18	156	295	.84	.13	.93	-1.5	.95	-.7	.48	.42	74.0	68.3	I0018
19	157	295	.82	.13	.87	-2.7	.86	-2.0	.52	.42	72.9	68.3	I0019
13	162	295	.74	.13	1.46	8.4	1.73	8.4	.02	.42	47.3	68.4	I0013
30	174	295	.53	.13	1.30	5.6	1.33	3.8	.17	.41	53.8	68.8	I0030
20	183	295	.38	.13	.84	-3.2	.77	-3.0	.54	.41	75.3	69.6	I0020
24	200	295	.07	.14	.90	-1.8	.87	-1.3	.47	.39	75.7	72.0	I0024
27	200	295	.07	.14	.95	-.9	.86	-1.4	.44	.39	73.6	72.0	I0027
16	201	295	.05	.14	.87	-2.4	.80	-2.1	.50	.39	76.7	72.2	I0016
12	209	295	-.10	.14	1.03	.4	1.12	1.0	.36	.38	72.3	73.8	I0012
5	220	295	-.32	.15	1.11	1.5	1.12	1.0	.27	.36	72.9	76.3	I0005
1	223	295	-.39	.15	.90	-1.4	.83	-1.3	.44	.36	78.8	77.1	I0001
6	225	295	-.43	.15	.97	-.4	.87	-.9	.39	.35	78.1	77.6	I0006
15	225	295	-.43	.15	.91	-1.2	.79	-1.6	.44	.35	78.1	77.6	I0015
25	229	295	-.52	.15	.92	-1.0	.78	-1.5	.43	.35	78.1	78.6	I0025
3	237	295	-.71	.16	.94	-.6	1.01	.1	.36	.33	83.2	80.9	I0003
9	242	295	-.83	.16	.94	-.7	.89	-.6	.38	.32	82.9	82.4	I0009
11	242	295	-.83	.16	.98	-.2	.97	-.1	.34	.32	82.2	82.4	I0011
22	244	295	-.89	.16	.86	-1.5	.77	-1.3	.44	.32	84.2	83.0	I0022
2	251	295	-1.09	.17	.91	-.8	.74	-1.4	.39	.30	85.3	85.2	I0002
7	252	295	-1.12	.17	.95	-.4	1.03	.2	.33	.30	85.6	85.5	I0007
8	252	295	-1.12	.17	1.03	.3	1.24	1.1	.25	.30	85.6	85.5	I0008
4	259	295	-1.35	.19	.91	-.7	1.02	.2	.33	.28	88.7	87.8	I0004
10	289	295	-3.36	.42	.95	.0	.75	-.3	.18	.13	97.9	97.9	I0010
MEAN	196.2	295.0	.00	.16	.99	.0	.99	.1			75.8	76.2	
S. D.	52.3	.0	1.13	.05	.14	2.4	.22	2.3			9.9	7.4	

The information we can get from the table above are; item which has the highest difficulty is item number 14 with logit value +2.12. Students who can correctly answer these questions are 84 from 295 students. Meanwhile, item which has the lowest difficulty is item number 10 with logit value -3.36. Students who

can correctly answer these questions are 289 from 295 students. The standard deviation logit value is 1.13.

Another results support the information about the item difficulty can be seen at *variable map*. Here is the variable map of this analysis:

TABLE 12.2 SOAL UJIAN PKTQ
 INPUT: 295 Person 30 Item REPORTED: 295 Person 30 Item 2 CATS WINSTEPS 3.73

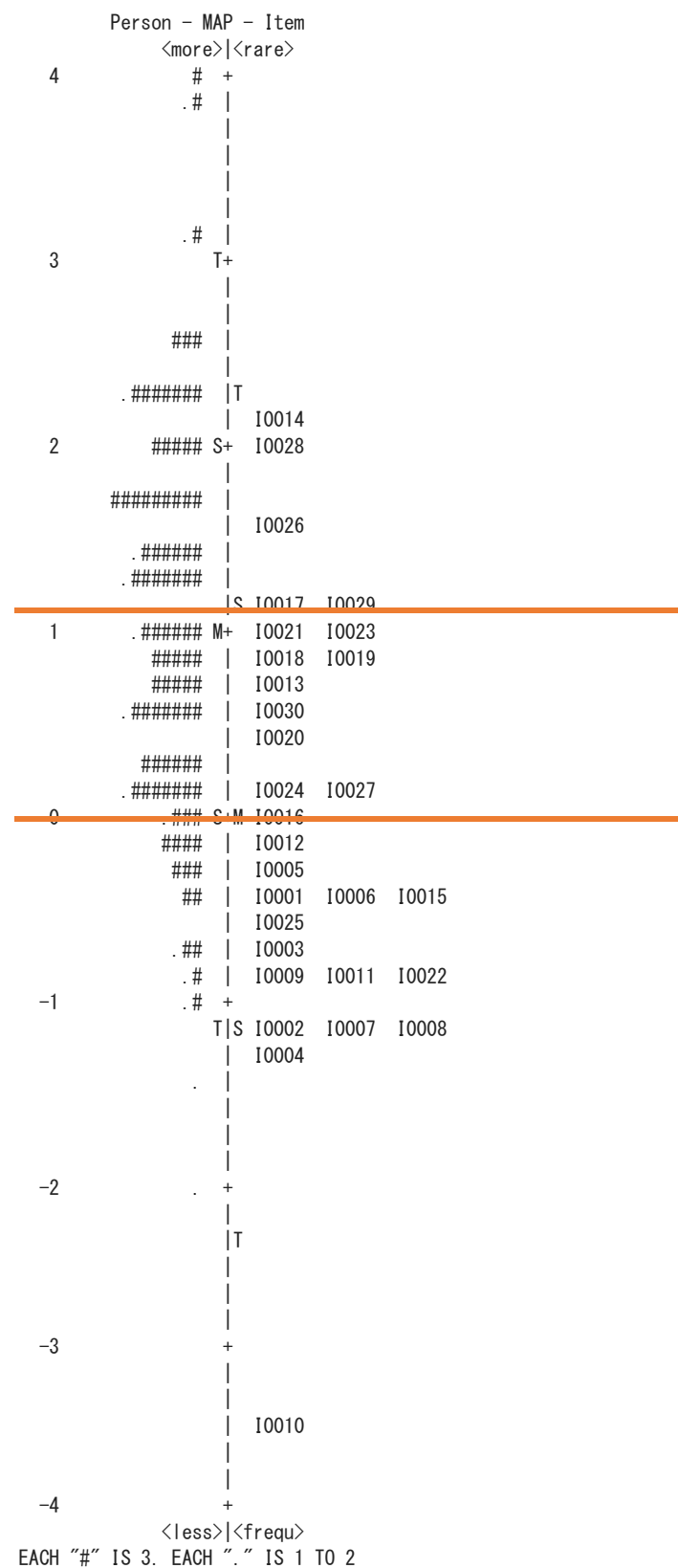


Figure 1. Output of Variable Maps

The result of the output above shows the distribution value of logit item. The value of logit person (mean measure) at table 1 is 1.01 is used to give upper limit to the difficult category data, data that placed between upper and lower limit include to average category. The analysis result shows that tahsinul qur'an certification exam which consists of 30 questions can be divided into three categories. The first is difficult category, in this category consists of 5 questions (16.67%), and the item number are 14, 28, 29, 26, and 17. The second is average category, in this category consists of 10 questions (33.33%), and the item number are 21, 23, 18, 19, 13, 30, 20, 24, 27, 16. The last category is easy category, in this category consists of 15 questions (50.0%), and the item number are 12, 5, 1, 6, 15, 25, 3, 9, 11, 22, 2, 7, 8, 4, 10.

Item fit

Item fit in rasch model explains the function of the item in doing measurement. If the item doesn't fit, so it will make misconception between students and items. It can be seen to determine the fitness of the item based on the value of *Outfit Mean Square (MNSQ)*, *Outfit Z-Standard (ZSTD)*, and *Point Measure Correlation (Pt Mean Corr)*. The criteria to see the item is in fit model are;

The value of *Outfit Mean Square (MNSQ)* received : $0.5 < MNSQ < 1.5$

The value of *Outfit Z-Standard (ZSTD)* received : $-2,0 < ZSTD < +2,0$

The value of *Point Measure Correlation (Pt Mean Corr)* : $0,4 < Pt \text{ Mean Corr} < 0,85$.

If items in those three criteria are not fulfilled, we can make sure that the items aren't good, so it needs to repair or replace.

Table 3. item difficulty tahsinul certification exam Qur'an

Entry Number	Total Score	Total Count	OUTFIT		PT-Measure Corr	Keterangan
			MNSQ	ZSTD		
13	162	295	1.73	8.4	0.02	Tidak Fit
28	90	295	1.38	3.3	0.23	Tidak Fit
30	174	295	1.33	3.8	0.17	Tidak Fit
8	252	295	1.24	1.1	0.25	Fit
29	139	295	1.21	2.8	0.31	Tidak Fit
26	109	295	1.20	2.3	0.32	Tidak Fit
5	220	295	1.12	1.0	0.27	Fit
12	209	295	1.12	1.0	0.36	Fit
21	148	295	1.08	1.2	0.38	Fit
7	252	295	1.03	0.2	0.33	Fit
23	147	295	1.02	0.3	0.42	Fit
4	259	295	1.02	0.2	0.33	Fit
14	84	295	1.01	0.2	0.43	Fit
3	237	295	1.01	0.1	0.36	Fit
11	242	295	0.97	-0.1	0.34	Fit
6	225	295	0.87	-0.9	0.39	Fit
10	289	295	0.75	-0.3	0.18	Fit
18	156	295	0.95	-0.7	0.48	Fit
27	200	295	0.86	-1.4	0.44	Fit
9	242	295	0.89	-0.6	0.38	Fit
25	229	295	0.78	-1.5	0.43	Fit
15	225	295	0.79	-1.6	0.44	Fit
2	251	295	0.74	-1.4	0.39	Fit
1	223	295	0.83	-1.3	0.44	Fit
24	200	295	0.87	-1.3	0.47	Fit
19	157	295	0.86	-2.0	0.52	Fit
16	201	295	0.80	-2.1	0.50	Fit
22	244	295	0.77	-1.3	0.44	Fit
20	183	295	0.77	-3.0	0.54	Fit
17	138	295	0.80	-3.1	0.57	Fit

Based on the above table, we can see that from 30 items in multiple choices, there are 5

items itend to not fit. Those 5 items are 13, 28, 30, 29, 26. Meanwhile, others are fit. If we take

a look from those three criteria, item number 13 is not fulfilled the requirement in Outfit MNSQ and ZSTD (each value are 1.73 and 8.4) and the value of *Point measurement correlation* is 0.02. Then, the other items which aren't fit namely item number 28, 30, 29, and 26. Those items aren't fulfilled the requirement in two criteria that is the value of outfit ZSTD and PT-measure corr. The value of outfit ZSTD in those four items is more than +2.0 and the value of PT-measure correlation are less than 0.4. So, we can conclude that those five non-fit items need to repair or replace.

4. Conclusion

Based on the analysis result which is used rasch model, it can be concluded that this instrument in the form of 30 items in multiple choices is reliable with the reliability score 0.98. The item difficulty based on the logit value shows that item number 14 includes to the most difficult item with logit value +2.12, and then the easiest item is number 10 with the logit value -3.36. The result of variable maps shows that there are 5 item include to difficult category (16.67%), 10 items (33.33%) include to average category, and 15 items (50.0%) include to easy category. After that, there are 25 fit items and 5 non-fit items which are analyzed by using rasch model. Those five items are 13, 28, 30, 29, and 26, so those items need to repair or replace.

5. Limitations

This research has several weaknesses such as; the item analyzed in tahsinul qur'an certification exam is only discussed about students' response in dichotomous, while the other type of question consist of 10 short essay,

and 5 essay that has not known its characteristics yet. The analysis using rasch model doesn't give us the information about the quality of item differences and the possibility of the participants that is only guessing. Beside, this research doesn't show the ability of the participant in answering the worksheet as an appropriateness comparison between students' ability and items difficulty. So, the future researcher can identify the item difference, the quality of short essay and essay, and also the comparison between students' ability and item difficulty.

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MULTICULTURAL KNOWLEDGE INTEGRATION IN DEVELOPING INSTRUCTIONAL MATERIALS FOR CURRICULUM 2013 IN ELEMENTARY SCHOOL

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Abstract

The aims of research consist of the following (1) to conduct need analysis of Curriculum 2013 instructional materials in elementary school (2) to develop instructional material based on multicultural values. The study employs descriptive qualitative method which the data are collected by interview, observation, and document analysis. The observation and interview results about instructional materials of Curriculum 2013 in some elementary school in Surakarta consist of the following: (1) there is no applicable instructional material for Curriculum 2013 yet (2) teachers need additional materials in order to deliver suitable material of Curriculum 2013 for students. (3) teachers get difficulties in selecting suitable additional material. (4) teachers need additional material which can develop students good characters by adding Indonesian multicultural knowledge in all subjects thematically and integrating it through the following steps: (1) wrapping multicultural knowledge as connector among basic competencies (2) adding multicultural knowledge in all students' books thematically (3) highlighting multicultural values in the end of material. (4) exemplifying multicultural knowledge in arts in SBdP subjects. (5) adding real photographs of multicultural diversities around Indonesia. By enriching and developing multicultural values for students so it can be integrated in instructional materials such as tolerance, nationalism, and spirit of unity in diversities.

Keywords: Multicultural, instructional materials, Curriculum 2013

1. Introduction

In the teaching and learning process there are various variables in order to deliver knowledge for students optimally. Instructional materials is one of main support. Instructional materials can be applied as information source which is needed for teacher in order to plan, select, and implement learning process [1]. In short, instructional materials is tool used by teacher to support learning process which can be obtained from various sources and arranged sistematically. An elementary school textbook is organized thematically. Books are provided by the government which can led to innovative learning, but Instructional materials are limited for teacher books and student books. Thus, teachers should provide additional Instructional materials independently from various sources. Observations in several primary schools in Surakarta have found that in seeking additional materials teachers used Instructional materials in the previous curriculum such as book packages published by Yudistira and Erlangga.

These statements are reinforced on the basis of observations made by in-depth interviews on teachers in some elementary schools in Surakarta

using Curriculum 2013, SD Muhammadiyah 24, SDN Begalon II, SDN Kleco, SDN Keratonan, SDN Bayan and SDN Semanggi Kidul. The result of in-depth interviews was found that; (1) there are still many shortcomings in students' books (old Instructional materials); (2) the need for additional new unique Instructional materials. The addition of Instructional materials is not authentically made but is always tailored by many things so it is more than the existing Instructional materials needed.

The development of Instructional materials not only can increase knowledge but also can help to overcome the current educational problem of students' character formation [2]. The students' character in the modern era that needs to be improved and developed, such as respect for diversity, tolerance and nationalism. The destruction of a nation will begin with the decline of its character [2]. So, character issue needs special attention in the world of education.

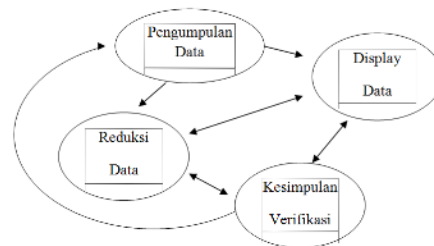
Indonesia is well-known as a country which rich in cultures. Ki Hajar Dewantara has three concepts about culture that are creativity, values and intention. Culture comes from *budhi* and *dhaya*, which is then simplified into *mind* (intelligence) and *power* (ability and strength)

[4]. Culture is one way of building the character of learners because it has useful values. Culture and education have a very close correlation and influence each other. One way to involve culture in education does not have to make its own subject, but it can be attached in the Instructional materials. Multicultural education is education about cultural diversity [5]. The essence of multicultural education is to foster nationalism, tolerance and unity in diversity. Multicultural can be used as reference of additional element in Instructional material to form good character. For example is theme 7 "Beautiful Diversity in My Country" for grade IV elementary school.

Epistemologically, multiculturalism consists of the word multi which means plural, culture which means culture, and ismewhich means belief. So multiculturalism is a pluralistic culture. Multiculturalism is a policy in the practice of education in acknowledging, accepting, affirming human differences and similarities associated with gender, race, and class [6]. Thus, that multicultural is the canal of multiculturalism that emphasizes the various cultures. Multicultural has two goals: the initial goal and the ultimate goal. The initial goal is a temporary goal because this goal serves only as an intermediary for the ultimate goal to be achieved well [7]. The goal of multicultural education that focuses on helping learners is to understand the group's background in society, to respect and appreciate ethnic cultural and ethno-cultural diversity, to resolve ethnocentric and purely prejudicial attitudes, to comprehend critical analysis skills - routine issues and political issues through a democratic process through a vision of justice and free society, developing a meaningful identity for everyone [8].

2. Methods

The method of this research is descriptive qualitative which aims to (1) describe the state of Instructional materials at elementary school in Curriculum 2013, (2) to investigate teachers' need for additional Instructional materials, (3) to describe how to integrate multicultural in the development of Instructional materials. In this research data collection obtained by interviews, observation, and document analysis. The researches are conducted in SD Muhammadiyah 24, SDN Begalon II, SDN Kleco 1, SDN Keratonan, SDN Bayan and SDN Semanggi Kidul involving teachers and some students. Data analysis is done by using Miles and Huberman interactive model.



Figur 1. Analysis Interactive Model

3. Result

The results of study on the old Instructional materials (Curriculum 2013 material) can be obtained that: (1) the material contained in the theme book of theme 7 is suitable with the basic competencies but the material presented is still not complete; (2) students' books (old Instructional materials) are appropriate to the age of learners and can motivate learners; (3) there are some materials that are less adapted related to the theme; (4) need additional glossary (5) need to add values that can be taken from multicultural knowledge.

Results of research on the need analysis of additional Instructional materials consist of the following (1) need Instructional materials which is more complete and applicable; (2) Instructional materials that can motivate students; (3) Instructional materials that are support for learners' development; (4) Instructional materials featuring authentic examples. The integration of multicultural values into Instructional materials is one form of renewal in the development of Instructional materials.

The integration of multicultural values in the development of old Instructional materials can be described as follows: (1) multicultural knowledge becomes the liaison among basic competencies. (2) attaching multicultural values in all subjects. (3) Emphasizing multicultural values in the process of delivering materials, (4) exemplifying multicultural values in arts for SBdP subject. (5) giving authentic photographs of multicultural cultures in Indonesia.



Figure 2. The Example of Multicultural in Indonesia

(6) Giving additional multicultural values as supplement in the end of chapter which consist of nationalism, tolerance and unity in diversity.

4. Discussion

1.1. Why does it need multicultural values?

The core values of multicultural education are democracy, humanism, and pluralism. 1) Democracy is a comprehensive term in all forms, whether cultural, political, or social justice. 2) The humanist value is essentially an acknowledgment of plurality, heterogeneity, and human diversity. The diversity can be ideology, religion, paradigm, ethnicity, patterns of thought, needs, economic level and so on. 3) The value of pluralism is an understanding that recognizes diversity in the nation, as it exists in Indonesia [8]. The difference of the students themselves must be acknowledged in multicultural education, including ethnic, racial, religious, ethnic, religious, ethnic, ethnic, religious, economic, regional, origin, age group and other ethnic minorities [9]

4.2 Principal Values for Developing Instructional Material

There are 6 principal for developing instructional material, consist of the following: (1) make the simple and authentic material which accessible for students (2) repeating to perform instructional materials in order to strenghten and to train the teachers to performs it accurately and variously. (3) give positive feedback for students to stimulate students' confidence and motivation. [1].

4.3 Steps in Developing Instructional Material

There are six steps in developing instructional material which consist of the following: 1) preparing the primary objective of instructional material, 2) conducting reasearch, 3) testing the available material, 4) arranging or modificating the available material 5) providing and creating a new instructional material, 6) selecting or providing learning activities [10]. The techniqe for developing printed instructional material consist of the following: 1) the title and material must cover basic competencies or primary maerial that must be achieved by students. 2) attractive and clear appearance, 3) the language is easy to understand, 4) the availabilty of stimulant, 5) easy to read [1]

4.4 Development of Multicultural Instructional Materials

In attaching multicultural values in thematic textbook should consider these following things: (1) analyze potential factors of multicultural values such as giving the students introductional knowledge, life skills, ethics, and its characters; (2) the teachers' competence in applying multicultural approach which consider students' cultural background (3) analyze students background in order to support their culture of learning styles (5) integrate it in textbook as instructional material.

5. Conclusion

Instructional materials are very important in the learning process, in Curriculum 2013 the only Instructional materials provided are teacher books and student books. The results of research on the need of old Instructional materials of Curriculum 2013 conducted with interviews on teachers, students and literature study to get the result that the old material need applicable additional Instructional materials. The results of research on the need of old Instructional materials get the result that the additional Instructional materials must be backed up from the old Instructional materials, the need for values that can be taken, the Instructional materials are compiled attractively and not out of the provisions of the old Instructional materials. From the results of the analysis of the state of the old Instructional materials, the need for additional Instructional materials has been obtained that the way to integrate multicultural insight is by packing multicultural into liaison between basic competence, incorporating multicultural in all subjects in student's book, accentuating multicultural values in the end of material, using multicultural examples in Examples of artwork in SBDP lessons, adding authentic multicultural photographs in various cultures around Indonesia, adding additional multicultural insights as supplement in the end of materials.

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STUDENTS' PERSPECTIVE ON ENHANCING ENGLISH SPEAKING ABILITY IN THE CLASSROOM

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Abstract

English recently is used as universal means in communication. Therefore, seeing English speaking ability from students' perspective is very important in this modern era when media, propaganda, and mass communication dominate nowadays. This makes everyone to be fully desired earning the advantages of modern education such online and multimedia resources. This study aims to investigate students' perspective on the quality of the materials given by the teacher, the students' chance to get correct pronunciation either from the teacher or other resources, and whether there is activity to improve students' speaking ability in English or not. The nature of this study was descriptive. The setting of the research was at Drop-In Class Self Access Center at one of private university in Yogyakarta. The sampling technique used was purposive sampling. A questionnaire with close-ended question was administered as the instrument to collect the data. The data was obtained from 30 students in the freshmen year. The collected data were tabulated in the form of frequencies and then analyzed using percentages. The results show that students' perception on the quality of the material given by the teacher in the classroom is not good to support students in improving their speaking ability. Students also experience unclear pronunciation from the teacher. On the other hands, students argue that other resources like videos and music provide clearer pronunciation for them. In addition, the activity provided by the teacher to enhance students' speaking ability is found in few numbers.

Keywords: ELT, speaking ability, students' perspective on speaking ability.

1. Introduction

Along with the development of education system, considering the students' perspective nowadays seems to be important to gain successfully teaching and learning process. When teacher is the only one who controls students' language production, students will face difficulties in transferring knowledge from learning-situation into using-situation or real life (Bygate, M., 2003). Teacher, in this case, is the one who has a responsibility to be aware dealing with students' perspective and making them conscious that their perspective is fully respected to be shared. Then, there will be cooperation between students and teacher to reach the same goals in the classroom.

Dealing with speaking, there are a lot of things to be considered like pronunciation, grammar, anxiety, fear of public speaking, etc. Students who are competent in communication are also competent in linguistic (Hedge, T., 2008). So, when they have no competency in linguistic, they cannot communicate well. Besides, the most frequent problem emerges in speaking especially in front of public is anxiety (Dörnyei, 2005; Ehrman, 1995; Gardner & MacIntyre, 1993; Harmer, 2004; Humphries, 2011; MacIntyre, 1999; Wang & Chang, 2010)

and the main cause of this problem is students' assumption on their performance which is either wrong or incomprehensible (Brown, H.D., 2001). Teachers must be very careful to cover those things to be well-provided, well-managed, and well-delivered to students. When those factors are not fulfilled, it may decrease the quality of students' speaking ability.

People say that practice makes perfect. Thus, teachers should provide enough time for students to practice their speaking to increase their speaking ability. This will gradually decrease the problems that frequently emerge in speaking activity such anxiety, nervousness, fear of misspelling. Besides, teachers should encourage students to do those variant activities and make classroom to be constructive environment where all students support each other to improve their speaking ability. The activities applied by teachers should appropriate for students. This can be reached by teachers who have completed English proficiency test e.g. TOEFL (Fayyaz, M., as cited in Khan & Ali 2010). In the end, The Commission on English Curriculum stated that the most crucial factors to enhance students' English speaking ability are how teachers encourage students' speaking activities by relating them to students' personal

interest and how teachers deal with both boys and girls (as cited in Khan & Ali, 2010).

This study focuses on investigating students' perspective on three aspects in speaking classroom. The first is the quality of materials given by teacher in speaking classroom. Secondly, students' opportunities given by teacher to get correct pronunciation from either teacher or other resources. The last, this research aims to investigate the implementation of activity applied by teacher to improve students' speaking ability.

2. Method

The nature of this research was descriptive. The sampling technique used was purposive sampling to 1st year students who attend speaking class in Drop-In Class Self Access Centre in one of private university in Yogyakarta. An adopted questionnaire from Khan and Ali (2010) was used to collect the data. The collected data were tabulated in the form of frequencies and analyzed through percentages.

3. Results

The obtained data from questionnaire which was spread to students can be seen in the Table 1 below:

Table 1. Response of students about English Speaking Ability

Question	Yes	No
Enough time for speaking ability	10 (33.33%)	20 (66.66%)
Different exercise given for speaking ability	12 (40%)	18 (60%)
Speaking on given topic for limited duration	11 (36.67%)	19 (63.33%)
Teacher Scold for speaking English incorrectly	11 (36.67%)	19 (63.33%)
Do not speak English in class, fear of teachers	17 (56.67%)	13 (43.33%)
Shy in speaking due to laughing of the class fellows	21 (70%)	9 (30%)
Do not know how to speak correctly	16 (53.33%)	14 (46.67%)
Teacher speaks English most of the time	13 (43.33%)	17 (56.67%)
Students are the main cause of poor speaking	12 (40%)	18 (60%)
Teachers are main cause of poor speaking	17 (56.67%)	13 (43.33%)
Teachers and students are equally responsible for poor speaking	20 (66.66%)	10 (33.33%)
Different activities i.e. Debate regularly arranged	8 (26.67%)	22 (73.33%)
Teachers help regarding academic problems	23 (76.67%)	7 (23.33%)
You like English	25 (83.33%)	5 (16.67%)
Speaking in English class with class fellows and teachers	2 (6.67%)	28 (93.33%)

Table 1. shows that 10 (33.33%) students said that they were given enough time for speaking to enhance their speaking ability whereas 20 (66.67%) students denied it. When asked that different exercises were given to them to enhance their speaking ability, 12 (40%) students answered that it was so, while 18 (60%) believed such was not the case. 11 (36.67%) students agreed that they can speak on a given topic for a limited time, but 19 (63.33%) did not agree. 11 (36.67%) students replied that their teacher scold them for speaking English

incorrectly, whereas 19 (63.33%) denied in this regard. 17 (56.67%) students argued that they do not speak English in classroom because of the fear of teachers, while 13 (43.33%) argued oppositely. In relation to a question that the students are shy in speaking because they think that their class fellows will laugh at them, 21 (70%) students said "Yes," but 9 (30%) said "No" in this relation. 16 (53.33%) students responded in positive, while 14 (46.67%) students in negative regarding the question that they did not know how to speak correctly.

Teachers speak English most of the time, 13 (43.33%) student said “Yes” whereas 17 (56.67%) said “No” in this connection. 12 (40%) students answered that they are responsible for the poor speaking ability, while 18 (60%) students replied “No” in this regard. Teachers were the main cause of poor speaking ability 17 (56.67%) students replied “Yes” but 13 (43.33%) answered “No” in this relation. 20 (66.66%) students believed teachers and students were equally responsible for the poor speaking ability whereas 10 (33.33%) did not think so. Regarding the question, different activities such as seminars, group discussions and debates competitions, etc. were regularly being arranged, 8 (26.67%) students responded positively but maximum students, i.e. 22 (73.33%) responded negatively. Teachers help regarding academic problems, 23 (76.67%) students agreed, while 7 (23.33%) denied it. When asked about a last question that the students speak in the class of English with their class fellows and teachers, 2 (6.67%) said “Yes”, while 28 (93.33%) said “No” in this regard.

4. Discussion

Most of the students complained that enough time was not given to enhance their English speaking ability in the classroom. It can be safely concluded that teacher was failed to encourage students to enhance their English speaking ability. Most of the students agreed that different exercises were not given to them regarding speaking ability. Some students agreed that they could speak on a given topic for a limited duration, while more than half did not agree in this connection. Some students were scolded by their teachers for speaking incorrectly in English but more than half did not think so. Some of the students could not speak in the classrooms of English because of the fears of their teachers. Another important point to be added over here was that big number of the students was shy because of the fear that their class fellows would laugh at them. According to the data, half of the students knew how to speak correctly. More than half the students responded that their teachers did not speak English most of the time in the classes of English. Students and teachers were equally responsible regarding one of the question asked from the students in connection with poor speaking ability, most of them said “yes” but the teachers are more responsible by having the professional knowledge and skills. Different activities such as seminars, group discussions and debates

competitions were not regularly arranged as told by great number of the students.

According to the result, the researcher suggests several points. The first is that students should get motivation, encouragement, counselling, and reassurance to remove their shyness due to fellows laughing in classroom. Secondly, teachers should be trained not to discourage students and they can control problems faced by students to create conducive milieu for learning in classroom. Then, teachers should emphasize more on linguistic skill e.g. vocabulary, grammar, and phonetic to make students be able speaking correctly. The last one is that teacher should provide various activities for students to practice their speaking to enhance their speaking ability.

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PUBLIC PARTICIPATION IN IMPLEMENTATION OF THE PROGRAM TO ACCELERATE THE COMPLETION OF ILLITERACY (STUDY CASE IN YALENGGA JAYAWIJAYA REGENCY)

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Abstract

The purpose of this study is to describe: factors that cause high rates of illiteracy, public participation in implementing literacy programs, obstacles faced and impacts of such programs for the community. This research is a descriptive study using a qualitative approach. Sources of data is consisted by head of PNFI Jayawijaya regency, Chief of Yalengga district, Chairman of the Department PNFI Kemah Injil Church Synode, Chairman of PKBM Yalengga and Tirluk, citizens of illiterate. Analysis data used in this research is qualitative method. The results show that the causative factors in height illiteracy figures in Yalengga District consists of: poverty population, school dropout basic level, drop out PLS program, social conditions, culture and gender equality, teacher absenteeism in schools and the geographical location of schools away from some of the villages/districts. Implementation of the programs required participation from government and society. Government supports on these programs are to build cooperation and partnership, strengthen of human resources and providers, facilitate issuance of SUKMA and perform the functions of control and evaluation. Community participation is directly involved as program providers (Church and PKBM), facilitators directly involved as tutors and directly involved as illiterate learners. Obstacles encountered in the implementation of the program are the level of participation of the community, tutors, learners; agency management, methods and teaching materials, cooperation, partnership and rural development. Literacy programs have a positive impact for the community, they were able to continue their education equally, spiritual impact, economics and for individual with self-esteem and confidence.

Keywords: *Public participation, literacy program, Rural Area Papua*

1. Introduction

Science, skills, and education are the basic elements that determine the dexterity of a person thinking about himself and his environment. A person who is able to change himself to be better will be able to change his family, later can change the region and then able to change the country to a better direction. But the fact, ideal condition is still far from expectations.

Education conditions in Indonesia now days still require various improvements in various fields. There are still backward people and untouched by decent education, many dropout rates and also many people who suffer from illiteracy status. Literacy in Indonesia existed since the colonial era and the beginning of Indonesia independence, and Government

continues to change it, various policies and programs for the elimination of illiteracy in Indonesia through formal, non formal and informal education.

Due to the importance of these illiteracy problems, in international become one of the determinants development level of a nation, which is measured from the level of literacy of its population to determine the Human Development Index (HDI). The results of United Nations Development Program (UNDP) assessment in 2013 Indonesia show an increment from ranked 111 in 2004 and 2009 into rank 108 in 2013, but still below China and Thailand. One Indicator causes of low HDI rating is the high population of illiterate people. The low human development index indicates the low competitiveness of the nation in life.

Table 1.1 Indonesia Rank Based on Human Development Index (HDI) In comparison with some Asian country, Year 2000 – 2013

Country	Years					
	2000	2002	2003	2004	2009	2013
Thailand	76	70	74	76	87	89
Malaysia	61	59	58	59	67	62
Philippina	77	77	85	83	115	117
Indonesia	109	110	112	111	111	108
China	99	96	104	94	92	91
Vietnam	108	109	109	112	116	121

Source: UNDP HDI Rank (2000, 2002, 2003, 2004, 2009&2013)

The data show high rates of illiteracy throughout Papua especially in rural areas especially for young girls. There are 40% of population aged between 15-59 classified as illiterate, high drop-out rates and Children that out-of-school and imbalances gender to get an access for education in all levels of education. The high rates of teachers and headmasters defaulters in districts at mountain areas (up to 48% of teachers and 70% of school principals) (ACDP, 2014) are very serious concerns and tremendous damage to the quality and trust of education services in hinterland of Papua.

Total data of illiteracy in Papua reach 634,243 people in 2012. 2013 Program, Central Government prioritizes to completing illiteracy in 26 districts in Papua Province and Year 2014 prioritizes 60,000 people to complete the program in 15 densely populated districts, namely Jayawijaya regency, Lani Jaya, Yahukimo, Puncak, Tolikara, Paniai, Puncak Jaya, Nduga, Pegunungan Bintang, Deiyai, Yalimo, Asmat, Dogiyai, Intan Jaya and Mamberamo Tengah.

In 2014 Jayawijaya Regency comes as the first of 15 districts that an illiteracy rate in Papua Province must be completed with total number of people illiteracy reach 65,965 people. The total target has to be completed in 2014 is 9,200 people. Yalengga District is one of the districts in Jayawijaya regency that participate in the program. The illiteracy completion program has been implemented by several institutions in the Yalengga district since 2000. But until today there are many people found with illiteracy status despite various literacy education services has been widely held using various methods, strategies in learning. People in Yalengga District have not been able to develop the potential and improve their life to be better.

There are some people cannot read, counting and speaking Indonesian correctly.

Davis (1962) said "Participation is defined as the mental and emotional involvement of a person in a group situation which encourages him to contribute to group goals and share responsibility in them." Community development always seeks to maximize participation that aims to get everyone in Communities are actively involved in community processes and activities to recreate the future of society and individuals. Thus participation is an important part of empowerment and growth of consciousness. The more active participants, the more complete their participation, the more ideal the sense of ownership and community processes will be realized (Jim & Frank, 2008).

Based on participatory systems and mechanisms, Cohen and Uphoff (1977) in Kannan, (2002) differentiate participation into four types: a) participation in decision making, b) participation in implementation, c) participation in benefit, and participation in evaluation. Participation in decision making is community participation in decision-making processes and organizational policies. Participation in this type is giving the opportunity to the public in expressing their opinion to assess a plan or program to be determined. The community is also giving an opportunity to assess a decision or policy in progress.

Literacy (Literacy) is simply defined as the ability to read, write and count. For illiterate adults, literacy skills are not only able to read, write and count, but rather emphasize function in everyday life (Archer, 1996). Widely, Literacy is defined as the basic knowledge and skills required by all citizens and become one of the foundations for the mastery of other life skills.

Literacy education is a type of non formal education service for people who have not and want to have the ability to read, write and count (calistung), which is functional for their life. People learning not only have calistung abilities, communicate in Indonesian language and business or livelihood skills, but can also adapt and survive in an ever-changing life. Literacy education program is oriented to everyday life by exploiting the potential that exists in surrounding environment, so that citizens learn and society can improve the quality and standard of living. Priority of basic literacy education is between ages 15-49 years old with status of tuna akara and has commitment to follow the activity.

The purpose of this research is to know the factors causing high number of illiteracy, to get information about type of public participation in implementation of the illiteracy completion program, to know the constraints faced by the organizers in the implementation of the program and to get information on the impact of the program in completing the tuna Script for community life in Yalengga District of Jayawijaya Regency.

2. Method

This research was conducted in Yalengga District, Jayawijaya Regency for six months, from December 2014 until May 2015. The type of research used in this study is descriptive qualitative. Researchers are one of important element in qualitative research or called as key instrument. Sources of data used in this research are PNFI field of Jayawijaya Regency, Head of Yalengga District, Head of Department of PNFI Synod of Gereja Kemah Injil in Tanah Papua, Chairman PKBM Yalengga, Chairman of PKBM Tirluk, Tutor and Residents Learning illiteracy. Data collection methods used was in-depth interviews, observation and documentation. Data analysis techniques used are data reduction, data presentation, conclusion and verification (Miles & Huberman, 1994). Validity testing of data was done by using reference, peer examination / supervisor and Discussion Group (FGD).

3. Results

a. Factors that cause high levels of illiteracy

The findings of factors causing high rates of illiteracy are: a) never schooling, b) family factors not giving support and motivation for children to remain in school, c) drop out, d) teacher absenteeism in school, e) Geographical, f) Not supportive environmental factors, g) cultural factors that people still hold and live in, and h) economic factors that society is generally

below the poverty line and making basic needs a priority for their lives.

b. Forms of community participation on implementation of illiteracy completion program

Forms of community participation in the implementation of basic literacy programs are: (a) Community institutions (Church, PKBM, Yayasan) are directly involved as program organizers. (B) The pastor voluntarily assumes the responsibility of being a tutor / facilitator of basic literacy programs; and (c) citizens as illiterate status reporters, directly involved as basic literacy learners.

c. Constraints faced by program organizers in implementing illiteracy programs.

The implementation of the illiteracy program in Yalengga district, there are many obstacles faced by various parties. Some obstacles faced by the local government as an extension of the central government, the organizers, tutors and residents learn illiteracy: (a) Low understanding of the importance of education, especially basic literacy education, (b) in general community needs is to fulfill of basic needs, therefore learning/education is not their priority (c) both tutor and people not active in learning (d) lack of training funding, evaluation and monitoring, (e) lack of coordination of work among local governments and program providers, (f) geographical factors for monitoring functions, (g) lack of learning guidance book/teaching manual, (h) no electricity / lighting to study at night, (i) and lack of self learning reference.

d. The impact of illiteracy programs on community life in Yalengga District Findings impact of basic literacy education programs for local communities are: (a) continuing education of equality, (b) independence to learn and develop, (c) potential development, and (d) to raise self-esteem and self-confidence from the citizens learning itself

4. Discussion

a. Factors contributing to the high rate of illiteracy

From the findings factors causing the high lift of illiteracy in Yalengga District, the following is a further discussion.

1) Cultural factors include: customary festivals, which in those events disturb the lesson schedule of illiteracy and education in general; Pig farming and marriage systems,

where parents find it difficult to sell pigs for educational purposes; And the role of men and women, in which the residents learn illiteracy is more dominant on women. The role of Dani female influences the participation of women in education and illiteracy learning.

- 2) Economic factors: Yalengga community routines and priorities exist in the fulfillment of basic needs.
- 3) Political factors: Population data are quite diverse from several sources. Population data is data for political needs, thus impacting on the increase of illiteracy rate.
- 4) Social factors of social consideration: encompassing geographic conditions for less strategic locations of schools, poor parental understanding of education.
- 5) Learning conditions: covering limited learning facilities and infrastructure; Teaching materials and reading materials was lack, administrative tools and financial were not functioned maximum; The limitations of tutors that coming from different educational backgrounds, there are 17 letters are rarely or not used in the local language, making it difficult on the learning process; As well as a lack of understanding on graduation standards of learning citizens.
- 6) Factors of teacher absenteeism: where teachers are not on duty for long periods of time, thus children does not get their right to learn.

Yalengga District is district with 32 km from Wamena, Capital city of Jayawijaya Regency, with 30 minutes milage by Car. But in rainy season, the street will come as mudhole.

- b. Community participation model on implementation of acceleration program for illiteracy in Yalengga District

The form of support from the Regional Government through the Office of Education and Culture of Non-Formal Education in the implementation of literacy education in Jayawijaya Regency, especially in Yalengga district is by:

- 1) Establish cooperation and partnership with the organizing institutions such as the Church, PKBM, NGO / Foundation and also universities in the region to implement the illiteracy programs.
- 2) Strengthening human resources: by providing training / comparative studies for PKBM leaders at home and abroad.

- 3) Strengthening the organizing agency: by issuing a decision letter for 40 PKBMs, another 24 were in process. Provide operational assistance, organizer fee, and equality education teaching materials, laptop, printer and physical building that has been realized with 4 PKBM buildings that have been built.
- 4) Facilitate the issuance of SUKMA.
- 5) Perform monitoring and evaluation functions: although there is still limited application of monitoring and evaluation function in field.

The type of participation in the implementation of illiteracy impairment program is participation in implementation (Cohen and Uphoff, 1977) which means participation or participation of the community in illiteracy completion activities based on established programs.

Types of community involvement in the program are:

- 1) The Church Institution: to be involved as an organizer with the responsibility to exercise spiritual literacy for Church Congregation with illiterate status; Fundraising for tutor training funds; Procurement, printing and distribution of teaching manuals; As well as Church building donations used as learning venue.
- 2) PKBM Institution: involved as an organizer; Tutors who come from the Church, are committed to teaching; Citizens learn to be directly involved as illiterate citizens to support the program.

Community participation in the implementation of the acceleration program for illiteracy is urgently needed, but there are several factors that sometimes hamper the participation of the community itself, among others: the level of education; The step of feeling 'trust' or 'confidence'; Society has not experience yet or uplifted its interests; As well as the program's goals and benefits are not clear enough for public.

The Church is an organization that exists in every region inland of Papua. If in a district does not have a school, it is certain that the church exists and provides services to the community. Inland of Papua, the church not only provides spiritual services, but provides health care, agriculture, livestock and education. In the case of PKBM in Yalengga District, Church in cooperation with the community to provide a package of learning services in the form of a

Teaching and Learning Center. The entry of Christianity in Papua in 1855 marked the beginning of modern education in untouched area (Modouw, 2013).

Based on the above obstacle factors, the following is a solution or strategy taken to foster community participation according to Jim and Frank (2008): bottom up approaching; Focusing on the process rather than on results; Raising public awareness of the purpose and benefits of activities; Collaborate and coordinate effectively; And oriented to build society.

c. Obstacle faced in organizers of illiteracy programs

From the results of interviews with informants and observations conducted at the program organizers, the obstacles that become interference are: public participation in general; Tutor participation; Participation of illiterate citizens; Institutional management; Methods and teaching materials; cooperation; And village development where Yalengga district has no electricity yet.

From some of the above obstacles, the program of acceleration of illiteracy completion is still carried out. Strategies taken are: change the approaching from the bottom; Institutions are always oriented on process rather than outcomes; Giving motivation for learning or inactive tutors; Cooperation between Dinas and teachers who manage their promotion by involving them in completing illiteracy; As well as institutional orientation to build communities with transparent funds usage.

d. The analysis impact from illiteracy completion program for community life in the Yalengga District

Literacy is a right for everyone. This concept is related to the principle of benefit, namely literacy education provides benefits to individuals, families, communities and nations. The results of impact interviews of illiteracy completion program for the Yalengga district community are: a) Education: illiterate people can continue their education by learning. B) Spiritual: the Church's seriousness in carrying out illiteracy programs has an impact for the congregation to be able to read and study the Bible itself. C) Economics: literate learners can improve their knowledge, business and income. D) Social: people's self-esteem and their confidence are lifted through literacy education.

With the program of accelerated completion of illiteracy for the illiterate people, indirectly the government and the organizers

empower the community or learners how to grow. Efforts to empower the community or learners can be seen from three sides namely, first: create an atmosphere / climate that allow potential learners Develop (enabling). Empowerment is an effort to build, encourage and motivate and raise awareness of their potential as well as to develop it. Second, strengthen the potential or power owned by student (empowering). Third, increase the participation of student in the decision-making process that concerns himself and society.

Functional of Literacy can be interpreted as ability to read and write. According to Arief and Napitupulu (1997), literacy is defined as the basic knowledge and skills that required by universe in a rapidly changing, as a human right. Meanwhile, according to Kusnadiet al. (2003: 53), functional literacy is one type of Non formal School Education services for people who have not and want to have the ability to read, write and count and then use it and meaningful for his life. They not only have the ability to read, write and count as well as having skills to do business or livelihood skills only, but also can survive in life.

Literacy is a catalyst for participating in social, cultural, political, economic and community empowerment, and as a part for lifelong learning. Functional literacy emphasizes an ability to handle a new condition that created by the community environment, thus learners have the functional ability that is functioning for self and community. The purpose of functional literacy is how to pursue the ability, understanding and adjustment to adjust the conditions of life and their working activity. More broadly, literacy seeks to build society, through the change of individuals level and society, with this equity, opportunity and global understanding. With the existence of PKBM in the Yalengga District, the community is able to pursue the opportunity to improve in the education field which leads to increase their self-confident and self-esteem.

5. Conclusion

Based on the results of research and discussion that have been analyzed, below are the conclusions from this research:

- a. The factors causing high illiteracy rates in Yalengga district of Jayawijaya Regency are: population poverty, dropout rate, drop out of PLS program, social condition, cultural factor, political factor and gender equality, teacher absence in school for some time and the geographical location of

schools is far enough for some villages or districts.

- b. To overcome the high rate of illiteracy, a program to accelerate the completion of illiteracy by optimizing the function of planning, implementation, monitoring and evaluation.
- c. In the implementation of the program requires participation and cooperation from government and community to ensure the success of illiteracy completion program. The government participation through the education office of Jayawijaya Regency by build the cooperation and partnership, strengthening human resources, strengthening program organizers, facilitating the issuance of SUKMA and perform monitoring and evaluation function. Type of community participation is become as program organizer institution that is realized with a sense of responsibility to discourage illiterate congregation residents thus people able to read and understand the contents of the Bible as well as other reading material. It's the same with the tutor teachers involved in it. While the learners of illiteracy are directly involved to learn and to complete their duties and responsibilities in the Church and society.
- d. In the implementation of many obstacles faced by the organizers, is: community participation, tutor participation, participation of learning citizens, management institutions, methods and teaching materials, cooperation and partners as well as development of the village. Strategies taken by program organizers to handle the above obstacles with approaching 'bottom-up', orientation on the process rather than results/outcome, raising community awareness, cooperation and partnership and orientation to build a community with transparent processing of funds.
- e. Thus this basic literacy program has a positive impact on people in Yalengga district to continue to equality of education, the spiritual impact that the congregation able to read the Bible and increase their faith and devotion to a supreme God, the economic impact for increasing people's incomes and Give impact to individuals to improve their self-esteem and self-confidence

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DESIGNING A MICSTRAW TASK ON GIVING DIRECTION TO SUPPORT TASK-BASED LANGUAGE TEACHING (TBLT) IN TEACHING SPEAKING

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Abstract

Teaching speaking in procedure text means teaching speaking about the directions of how to create/do something in English. However, there is no activity provided from the book in which the students have proper activity to express the direction of how to create something in spoken. This research was conducted to: formulate the teaching speaking procedures that the students need in procedure text; design a Micstraw task to encourage the students to speak about the directions of how to create something in English; and know the experts' perceptions whether the design of Micstraw task is meaningful, interesting and contextual or not in teaching procedure text to encourage the seventh grade students to speak about the directions of how to create something in English. This research was carried out at seventh grade students of SMP Negeri 2 Siantan in academic year 2015/2016. This research is a development research which consists of four phases; analyze, design, develop, and evaluate. Analyze phase was done by analysing the students' need in speaking about the directions of how to do/create something by using interview and observation. Design and develop phase were done by considering the result of need analysis in analyze phase. Evaluation was the validation toward a Micstraw task which was done by the experts. The result of evaluation was 3.25 which was categorized as good. It convinced that Micstraw task is meaningful, interesting and contextual to be used but it still needs little revision.

Keywords: contextual learning, development research, micstraw, procedure text, TBLT, teaching speaking

1. Introduction

Teaching speaking in procedure text means teaching speaking about the procedures/directions of how to do/make/ create something. Many of activities in the books do not provide proper activities which facilitate the students to speak about the procedures/directions of how to do/make/ create something in English. The activities of speaking in procedure text only based on the teacher's initiative that provides the students to speak about the procedures/directions of how to do/make/ create something in English. Meanwhile in the syllabus, the students have to express the procedures/directions to do/make/ create something in written and spoken. Therefore, the activities which are given in the class should provide the students to speak about the procedures/directions of how to do/make/create something which are in meaningful, interesting and contextual way. So that, the students can understand the lesson easily and enjoy the teaching and learning process.

According to the basic competence designed for seventh grade students of Junior High School,

the students have to learn about the procedure text which requires them to express the procedures/directions to do/make/create something in English. Therefore, speaking about the procedures of how to do/make/create something is necessary in learning process. Speaking is about considering the use of vocabularies, tenses, grammar, and pronunciation so the students need teaching procedures/ activities which are meaningful, interesting and contextual in teaching speaking about the procedure of how to do/create something in English naturally. In addition, the students have to be able to take risk, be confident, and eliminate anxiety to speak fluently. In other words, speaking about the procedures is very important but it is not an easy work to be done because of the many factors which must be considered by the teacher.

Based on the curriculum which mostly used in academic year 2015/2016, that is KTSP Curriculum, the book which was used is "Let's Talk". In the book, there is no the activities which provide the students to speak about the procedures/directions of how to do/create/make

something in English. The book only provides reading and writing procedure text activities.

Based on the observation of learning process in the class VII A in SMP Negeri 2 Siantan, the activities of speaking were based on teachers' initiative because the activities were not provided from the book. During the learning process, the students learned about "how to make the omelet". The content of the procedures were determined by teacher. The students were not given the opportunity to choose the content of procedure text based on their interest. The students also did the practice in the classroom; the teacher asked the students to bring material needed to do the presentation and the equipments needed were brought by the teacher. It was useful, but the script already prepared by the teacher so the students did not develop the words used. All of the students had the same presentation that was "how to make omelet (telur dadar)" and the same talks. Besides that, only several students who did speaking, the rest of them just kept silent. There were some students seemed not interested with the lesson. Based on the activities in the classroom, it can be seen that the activities in the classroom did not give the opportunity to the students to explore their ability to speak about the procedures/directions of how to do/create/ make something in English naturally. This research is aimed to design a meaningful, interesting, and contextual task in teaching procedure text by using straw as the media of doing the task to encourage the seventh grade students to speak about the procedures/directions of how to do/create/make something in English. This task is named Micstraw task where the students learn in meaningful, interesting and contextual way by using straw crafts as the media of learning English. Considering how important the Micstraw task is, the researcher uses TBLT method. Nunan (2004: 1) mentions that the use of task-based language teaching (TBLT) emphasize the learning to communicate purpose using target language, provides contextual learning, helps the students focus on the language and the learning process, enhance the learner's own personal experiences as important contributing elements to classroom learning, and links the classroom language learning with language use outside the classroom. It can be concluded that by using TBLT method, the students have the opportunities to explore their ability by doing the task and it focuses not only on the language but also on the learning process.

Willis (1996: 38-40) states there are three stages in TBLT design which consist of pre-task, task cycle, and post task. In pre-task, the teacher

will do some preparations for the task. Next, the teacher introduces the topic and task. After that, the teacher provides the students to learn useful words and phrase. The students will note down the phrases from the pre-task activities. In the task cycle, it can be subdivided into three stages, including task, planning, and report. In the task stage, the students do the task in pairs or small groups by using the target and the teacher monitors the students from the distance. In the planning and report stage, the students are able to complete the task and prepare to report an outcome, for instance, some groups present their reports to the class. This cycle is the main phase where the students use the target language to do the task. The last phase is the language focus. In this stage, the students discuss the text in groups and the teacher encourages them to focus their attention on forms of the language which they have already processed for meaning based on the texts or transcripts used earlier in the task cycle. Mistakes will be corrected and the students get to practice the language form more extensively and lead them to a deeper understanding of their meaning and uses.

A Micstraw task is a set of procedures of meaningful, interesting and contextual speaking activities about telling the procedures/directions of how to create any kinds of straw crafts in front of the classroom in pairs/small groups in natural way. Straw/plastic straw is the instructional media which is used in a Micstraw task. Scanlan as cited in Ministry of National Education (2009:2) states that instructional media includes all the materials and physical means which facilitate students to achieve learning objectives. The use of instructional media in teaching and learning process also help students to keep their attention and interest, adjust the learning climate, and promote better understanding to the lesson (Seth, 2009: 22-23).

2. Method

The researcher used development research method to design a Micstraw task as the alternative way to teach speaking about the procedures of how to create something in English. The participants in this research were 30 seventh grade students of class A and an English teacher in SMP Negeri 2 Siantan. To formulate the procedures of teaching speaking that the students need in procedure text, the researcher interviewed an English teacher and observed the students in the classroom and books. To evaluate a Micstraw task, the researcher prepared expert evaluation for expert validation towards the Micstraw task. The data collecting instruments

consisted of interview sheet, field notes and assessment rubric. The techniques of data analysis that were used were need analysis data and expert validation data.

This research used one of Instructional Design (ID) that is ADDIE model as the process guiding in conducting the research. According to Branch (2009: 1), ADDIE is an acronym for Analysis, Design, Development, Implementation and Evaluation. He also states that ADDIE is a process that serves an appropriate guiding framework for developing educational products and other learning resources. This research only used the four phases of ADDIE; analysis, design, develop and evaluation.

Analyze

The purpose of analyze phase is to identify the probable causes for a performance gap (Branch, 2009: 17). The researcher did the analysis from the teacher and students' interview and observation result. An English teacher and three students were the sources of the information. The data which were analyzed was the procedures of teaching speaking that the seventh grade students of SMP Negeri 2 Siantan need in procedure text by doing interview and observation.

Design

In this phase, the researcher started designing the first draft of a Micstraw task as useful teaching procedure to encourage the students to speak about the procedures/directions of how to create something in English based on the result of collected data from analysis phase.

Develop

After designing the product the researcher developed the procedures in the product so this research can produce useful procedures of a task to encourage the students to speak about the procedures/ directions of how to create something in English.

Evaluate

This phase is to evaluate and validate a Micstraw Task if it was meaningful, interesting and contextual to be used for seventh grade students of SMP Negeri 2 Siantan in teaching speaking about the procedures/directions of how to create something in English.

3. Result

This research was conducted for seventh grade students on second semester of class A in SMP Negeri 2 Siantan based on KTSP Curriculum. There were 30 students in the classroom with the range ages were around 12-16 years old. Based on the classroom

observation, the students did not have their own English book or LKS, the teacher just gave them the handout as the material for the teaching and learning process. Sometimes, the teacher lent the students the LKS from the library to do the exercise. While studying, only several students that brought the dictionaries. It was caused some students did not have the dictionaries and some of them were lazy to bring it because it was heavy. Some students liked to walk around to see their friends' work. When their friends did the presentation in front of the classroom, some students paid attention to the presenter and some were busy with their own business so it seemed that several students were not interested with the lesson and the rest of them gave good responses in learning process. Based on the interview, the students were already familiar with straw creativities. In SBK (*Seni Budaya dan Kesenian*) subject, the students ever created straw craft but in English subject they never used straw as the media in learning. The students also claimed that they would feel more interested learning English if it was done by doing creativity.

The English subject had two meetings a week with the duration 2x40 minutes for each meeting. The speaking activities are about the procedures/directions of how to do/create/make something was based on the teacher's initiative. At the first, the teacher did not mention the purpose of the lesson so many students looked confused about what they were going to learn and what was it for. The teacher divided the students into groups which consisted of 4-5 students. After that, the teacher gave the handout with the title "how to make the omelet". Without explaining what the lesson was about, the teacher asked the students to read it in 5 minutes and present it in front of the classroom. The students already brought the material needed, so it seemed that the teacher already asked the student to bring it in the previous meeting. The stove and bowl were brought by the teacher.

Based on the teacher's perspective, the lesson in procedure text had to relate with the students daily life to make it contextual. The teacher only taught the procedure that already known by students and for the content of the procedures itself were determined by teacher so the students did not have the opportunity to choose the procedure based on their own but the students were asked to read the some content of procedures from different resources. The teacher usually gave some tasks to the students such as translate the text, making note, and presentations. These tasks increased the students' vocabularies and knowledge practiced their speaking and confidence, and the students could study at home.

For the students, these tasks could increase their understanding, increase the vocabularies and also could study at home.

Based on the classroom activity, the students had to present and explain or tell how to make omelet step by step in front of the classroom with their groups that consisted of 4-5 students. When doing the presentation, only 2-3 students who spoke, the rest of them just kept silent and did not say anything. Some students still looked shy and were afraid to make mistake. It looked from their voice; quite voice. The students' talks were exactly the same with the script which was given by the teacher so they did not develop the words and explore their ability. The words that they used were from the teacher and they were not from their own. Based on the teachers' perspective, the difficulties in teaching speaking were the amount of vocabularies, pronunciation, students' anxiety to make mistake and the source of book that the students had.

Based on the students' perspective, they had the difficulties in pronunciation, vocabulary, understanding the meaning, they were also afraid to make mistake and shy to stand in front of the classroom, and sometimes they forgot about they were going to say. The students liked to do speaking with friends rather than did it alone in front of the classroom.

Based on the curriculum which mostly used in academic year 2015/2016, that was KTSP Curriculum, the book which was used is "Let's Talk" According to the basic competence designed for seventh grade students of Junior High School in KTSP Curriculum, students learn about the procedure text which requires them to express the directions to do/make/create something. In the book, there is no the activity which provide the students to speak about the procedures/directions of how to do/create/make something. The book only provides reading and writing procedure text activities by using cue words and wordless pictures. It can be concluded that the book only provides the activities in which the students can express the directions to do/make/create something in written, there is no the activity in spoken.

Besides the book, the SMP Negeri 2 Siantan also used LKS (Lembar Kerja Siswa) with the title "Cakrawala: cakap, kreatif dan berkualitas". The teacher lent the LKS to the students from the school library. LKS was used to give the exercises to the students. For the speaking activity, the LKS provides the activity in which the students have to do dialogue in pair but the content of dialogue is not suitable for expressing the directions to do/make/create something.

4. Discussion

According to the problems above, the researcher provided an alternative way for teaching speaking in procedure text, which was a Micstraw task for teaching speaking about the procedures/directions of how to create something in meaningful, interesting and contextual way. The use of straw was because it was safe, simple, cheap, easily find in the environment, had many variant colors, had many kind of creativities such as flower, jewelry, room decoration, frame, game, and the creativities from straw were familiar for the students because they ever learnt about it in SBK (*Seni Budaya dan Kesenian*) subject so it was easier for the students to create the creativity from straw. A Micstraw task used Task-Based Language Teaching method which gave the opportunity for students to explore their ability by doing the task and it focused on its use to achieve communicative purposes so this method was fit to encourage the students to speak English about the procedures/directions of how to do/create/make something naturally.

Micstraw task was a set of procedures of meaningful, interesting and contextual speaking activities about telling the procedures/directions of how to create any kinds of straw creativities in front of the classroom in small group. According to its name, a Micstraw task was a set of procedures which was designed to have meaningful, interesting, and contextual activities. This was interesting because the students creating the creativity by using straw as the media based on their interest. Each group had different creativity to be presented. Every student had the opportunity to develop their language. Interesting was one of the criteria for having meaningful activity. The lesson also had clear objective and it was started from the simple procedure which the students have already known then it was continued to new procedures. In addition, the students not only learn the theories, but also did the practice directly. The creativities from straw were also familiar in students' real life because they ever learnt it in SBK subject so the language used in this lesson can be applied in their daily activities. Therefore it was contextual.

A Micstraw task consisted of three stages. They were pre-task, task cycle and language focus. Every stage had its sub-task which must be done by the students to achieve the learning objectives. Below was the model of a Micstraw task:

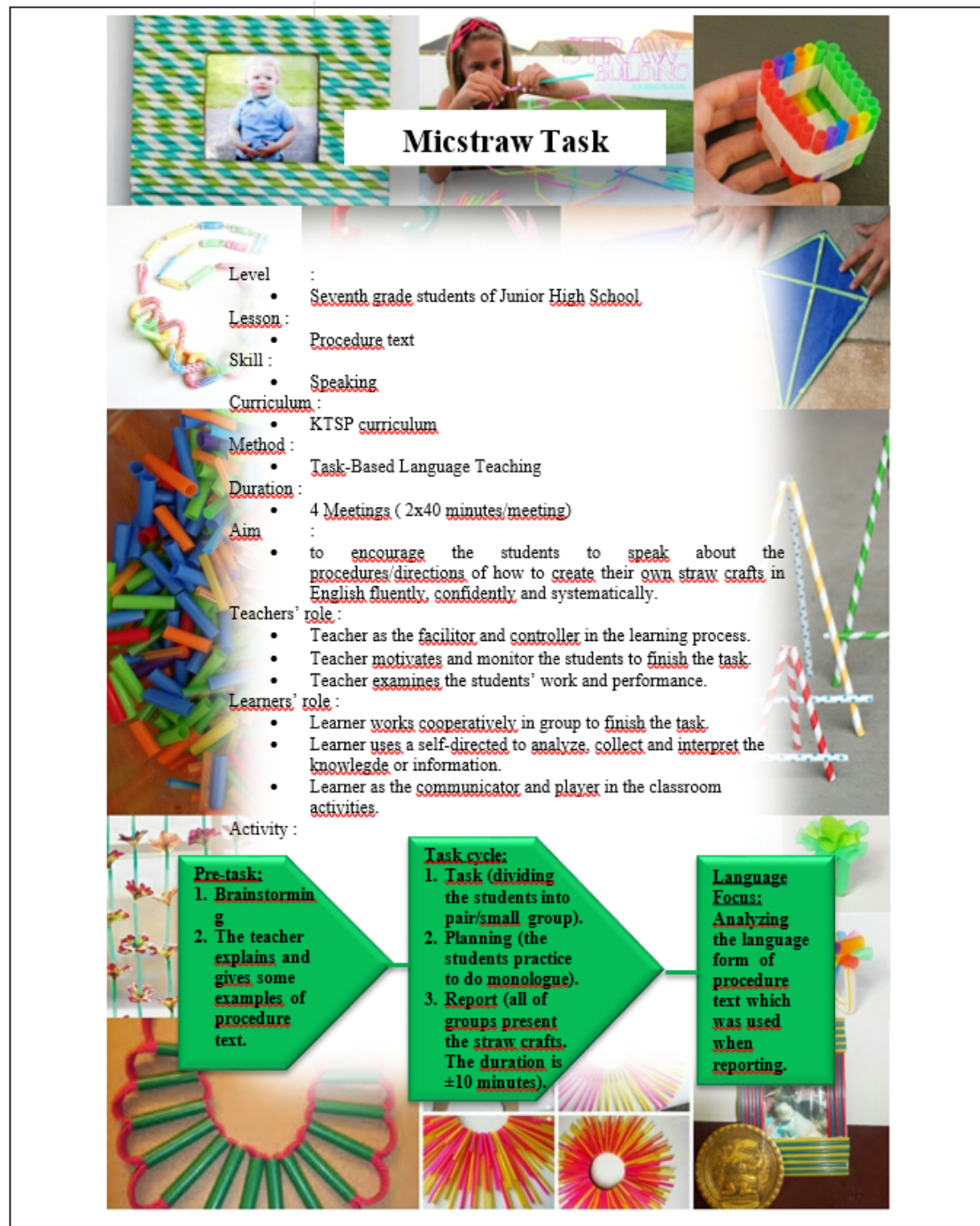


Figure 1. Specification of Micstraw task

Based on the model of a Micstraw task above (Figure 1.), the explanations of the task is as follows:

Pre-task

Micstraw task is a kind of task which is taught in the first teaching. In the pre-task (meeting 1), the teacher told the purpose of the lesson so the students would not get confused about what they were going to learn and what it was for in their daily life. After that, the teacher gave brainstorming related to the topic without directly contribute on a given topic that was procedure text. Then, the teacher started explaining about procedure text and gave the example directly. The examples were started from the simple procedure that the students had already known such as how to sharpen their pencil by using sharpener then it was continued to create straw crafts. The teacher showed how to create a necklace from straw directly. To make sure that all of the students understood the lesson and the task, the teacher gave the opportunity to the students to ask. If there were no students who asked, the teacher had to ask the students some questions related to the lesson and the task.

Task cycle

Task cycle consisted of three phases. They were task phase, planning phase, and report phase. The directions of task cycle are as follows:

1. In the task phase, all of the students were divided into small groups which consisted of 2-3 students. It was because to force all of the students to have the opportunity to speak so not only several students could speak. Big group tend to let not all of the students could speak. By working with group, the students could share their ideas one another and helped each other when their friend forgot about what to say. In addition, the teacher also provided some verbs and prepositions which may be used in procedure text related to create straw crafts. The theme of the task was "creativity by using straw". All of the groups were free to choose the kind of creativity by using straw they intended to use. The students had a week to prepare themselves to do presentation in front of the classroom. The teacher limited the time of presentation around ± 10 minutes so the students had to choose the simple creativity

to be presented. After deciding the kind of creativity, the students started to write the procedures and did planning for the presentation.

2. In planning phase (meeting 2), the students were given the opportunity to practice how to present their procedures when they had to perform in front of the classroom in the next meeting. They were also given the opportunity to ask the teacher about their task if they still got confused.
3. In report phase (meeting 3 and 4), all of the groups had to present their findings and did monologue of how to create the creativity by using straw in front of the classroom. All of the presenter had to speak up and explain the procedures. The teacher provided the observation sheet for the other groups who be the audience while watching their friends' performance. It was to control all of the students to pay attention to their friends' performance and were not busy with their own business.

Language Focus

In language focus stage (meeting 4), after the presentation, the teacher changed the focus into the language forms used in procedure text. All of the groups had to analyze the language form used based on their text or transcripts which was used to do the presentation or try to remember their presentation when they did the report if they did not have the transcript. Then, submitted their works to the teacher. After that, both teacher and students gave feedback from the whole activities that they had already done.

The last process in this research was evaluating the product. This process was done by the experts from a lecturer in English Department of Teacher Training and Education Faculty of Tanjungpura University and the Head of English Learning Center of Pontianak State Polytechnic. The assessment rubric was constructed of six criteria/standards which consisted of instructional media, meaningful activities, interesting activities, contextual activities, TBLT and speaking activities. There were 38 criteria which were filled by the experts. The analysis of the result of expert evaluation was based on the likert scale system. The table of result can be seen below:

Table 1. Result of Expert validation

No.	Criteria	Score from validator		Item	Mean	Max Score	Category
		1	2				
1.	Instructional Media	46	42	14	3.14	4	Good
2.	Meaningful Activities	19	18	6	3.08	4	Good
3.	Interesting Activities	8	6	2	3.5	4	Good
4.	Contextual Activities	8	6	2	3.5	4	Good
5.	TBLT	33	27	9	3.33	4	Good
6.	Speaking Activities	19	15	5	3.4	4	Good
Total		133	114	38	3.25	4	Good

Based on the result of expert evaluation, the mean of instructional media was 3.14 which was categorized as good. The mean of meaningful activities was 3.08 which was categorized good. The interesting activities was scored 3.5 which was categorized good. The contextual activities was also scored 3.5 which was categorized good. The mean of TBLT and speaking activities were 3.33 and 3.4 which were categorized good. So, the total mean of a Micstraw task was 3.25 of 38 items which was categorized as good that means it is meaningful, interesting, and contextual to be used but it needs little revision to encourage the seventh grade students in SMP Negeri 2 Siantan to speak about the procedures/directions of how to create something in English fluently, confidently and systematically.

Language Teachers and Education Personnel.

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TEACHERS' SKILLS OF TEACHING ACCOMMODATION AND MODIFICATION FOR STUDENTS WITH LEARNING DISABILITIES IN ELEMENTARY INCLUSIVE CLASSROOMS

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Abstract

The aim of this study is to describe the skills of elementary inclusive teachers of teaching accommodation and modification for students with learning disabilities. This research is a descriptive research. Subjects were 40 regular teachers and 20 special teachers of Inclusive Elementary School using proportional sampling technique. Data was collected by using questionnaires, observations, interviews, and documentation and analyzed descriptively qualitative using interactive techniques. Findings from this study indicated that the skills of 60 teachers in teaching accommodation and modification for children with learning disabilities had done still not adequately. Flexibility in teaching accommodation and modification for children with learning disabilities is done in four things: (1) the provision of material and the way of teaching, (2) giving assignments and assessment, (3) the demands of time and schedules, and (4) the learning environment. Model of teaching accommodations and modifications is proven to be effective to improve the skills of teachers in the handling of children with learning disabilities.

Keywords: the skill of teachers, teaching accommodation and modification, children with learning disabilities

1. Introduction

In developing country, the number of children with specific learning difficulty or children with learning disabilities is greater than children with other special needs. A research of Pujaningsih et al. (2002) in Berbah, Yogyakarta, Indonesia, found that 36% children have specific learning difficulty. In detail, 12% is slow learner, 16% is having specific learning difficulty, and 17% is mentally retarded.

The problem of learning disabilities is being a serious matter. Unfortunately, there is no sufficient action for handling the problem. In addition, people, especially teachers, are uncommon with the term of learning disabilities. This condition makes teachers misjudge their student as "stupid child", "lazy child", "underachiever", and so on.

In the other side, the existence of children with learning disabilities is the causal factor of stress experienced by teachers. It happens because the children show divergent attitude continually and low motivation and attention towards learning. Teachers in 18 elementary schools in Yogyakarta municipality clarify that

there are 3-4 students with learning difficulties in class and declare it as a burden.

There are views of importances of the research related to problems about children with learning disabilities. Teacher Preparation Program does not give any material about children with learning disabilities. It makes almost all of regular teachers are difficult to handle the children with learning disabilities. Then, the level of acceptance of teachers also affects their way to treat the children with learning disabilities. Unfortunately, the acceptance of teachers is very rare (Bryan, 1997; Sale & Carey, 1995 on Pavri & Lutfig; Cook, 2000) so it is no wonder if a negative judgment concentrated to the children with learning disabilities. Lopes et al. (2004) agreed with the statements. They said that regular teachers are difficult to handle the children with learning disabilities and feel that the children with learning disabilities are burden for them. The children with learning disabilities need more time and attention to learn compared to other children but they are underachiever. A research of Sari Rudiwati et al. (2009) about learning model of accommodation to handle children with specific learning difficulty in various classes is difficult to apply because the low percentage of

the acceptance of teachers towards the children with learning disabilities. There is bad impact caused by neglecting children's needs. Litch (Smith, 1998) said that wrong adaptation is the cause of failure faced by children with specific learning difficulty. Then, they are difficult to socialize and rejected by their friends (Farmer kin, 1996; Nabasoku & Smith, 1993 on Pavri & Lutfig, 2000). Lackaye and Margalit (2006) found that children with learning disability feel lonely and have bad emotion. The feeling can be developed to depression (Magg & Reid, 2006) and tendency to commit suicide. When teacher give a bad example to neglect student with learning disability, another students will imitate the teacher's attitude. Favazza et al. (2000) explained that the rejection towards children with learning disabilities happens in unsupported places to do rejection. Kim (2011) clarified that the existence of teachers is important to make a better situation that can encourage children with learning disabilities to interact with another children.

The main focus of the research is the existence of teachers as the main actor to establish situation of the class. Teachers expected to accept the children with learning disabilities and to develop strategy which is suitable for children needs. It will be the foundation of developing model of learning accommodation and modification. The model aims to educate teachers how to treat student with learning disabilities without being unaware with another students.

Learning model of children with learning disabilities based on learning accommodation and modification compiled in previous research needs to perfect because it focused only on general children with learning disabilities. Hopefully, this research can perfect previous research by focused on children with learning disabilities. It will be a guide-book which contains various alternatives to accommodate and modify the learning activity with clear applying steps.

Researcher team consists of researchers specialized in several studies that are: Inclusive Learning (Sari Rudiyati), Slow Learner Teaching and Intellectual Disability (Mumpuniarti) and Study of Children with Specific Learning Difficulty (Pujaningsih). The problem of national regulation and technical guidance which uninvolved the topic of children with learning disabilities should be solved. It needs the contribution of universities to support government's policy about inclusive learning.

The research will reveal facts such as the existence of children with learning disabilities and the need of knowledge and skill by the teachers explicitly. The difficulty faced by researchers is children with learning disabilities are difficult to recognize; the existence and the needs. Then, there are some similarities between children with learning disabilities with slow learner so an accurate selection through reliable instruments is needed.

2. Method

This research is descriptive research. Subjects were 40 regular teachers and 20 special teachers of Inclusive Elementary School using purposive techniques. The design of the research were preparation, implementation, data analysis, and reportation. Data was collected by using questionnaires, observations, interviews, and documentation and analyzed descriptively qualitative and quantitative using interactive techniques.

The research population was children with learning disabilities in Special Province of Yogyakarta, Indonesia. This research samples were undertaken in some different places in 15 inclusive elementary schools in Special Province of Yogyakarta, Indonesia; each of regency Yogyakarta, Sleman, Bantul, Gunungkidul and Kulon Progo. The details of distribution is 3 inclusive school in each of regency/city with criteria: 1) high prevalence of student with learning disability, 2) high commitment from school to apply inclusive education, 3) has at least 1 special teacher within the school. The variable of this research is teachers' skills of teaching accommodation and modification for students with learning disabilities in elementary inclusive classrooms.

This research used the instruments of gathering data such as questionnaire, observation guide, interview guide and documentation investigation guide. This questionnaire was used to reveal understanding, attitude and skill of teacher nowadays in implementation of learning accommodation and modification of children with learning disabilities. The documentation investigation about service regulation for children with learning disabilities in inclusive schools in national and regional level also becomes target in this research. Observation is directed to gain more information about: 1) implementation of teacher mentorship to understand guide book of learning accommodation and modification for children with learning disabilities, 2) implementation of

learning needs assessment of children with learning disabilities, 3) the making of design of learning accommodation and modification based on student needs, 4) implementation of learning accommodation and modification in high class (3, 4 and 5). Interview is aimed to gain information: 1) quality of implementation of learning accommodation and modification and supporting and obstructing aspects, 2) conformity between selection of learning accommodation and modification with children needs, 3) conformity between learning accommodation and modification guide book and teacher needs. Documentation is in form of student task before and after the implementation of program, and lesson plan containing learning accommodation and modification.

Data analysis was undertaken by descriptive qualitative technique using interactive techniques.

3. Results

The teachers of Inclusive Elementary School had done handling children with learning disabilities by model-based learning accommodation and modification that contains management class situation, the flexibility of the process and evaluation of learning. Flexibility is done in four things: (1) the provision of material and the way of teaching, (2) giving assignments and assessment, (3) the demands of time and schedules, and (4) the learning environment. Four points are supported by management that supports the academic climate situation "supportive learning environment". Climate academic support/enabling is anything related to the attitude, the behavior of the teacher and other students who demonstrate acceptance of the existence of children with learning disabilities. Acceptance of the teacher in this case is associated with positive teacher expectations towards children with learning disabilities.

Procedures for application of the model of learning accommodation and modification were divided into two sequences of implementation. First, preparations are made to realize a conducive academic atmosphere. This is not done by the teachers adequately, it is evident that there are still teachers who leave the classroom situation that is not conducive to such a rowdy class, students did not pay attention to the teacher's explanation. Second, the implementation of collaborative material accommodation and modification between teachers and sustainable. To realize the conducive academic atmosphere, the acceptance of the diversity of the student by the teacher an

absolute must have. Therefore, teachers need to look at the needs of children with learning disabilities and have adequate knowledge. Flexibility in the four domains described as follows: (1) materials and teaching ways, including: (a) The use of the learning method VAKT (visual, auditory, kinesthetic, tactile); (b) the provision of more frequent during the learning process; (c) use of tools (computers, calculators, tape recorders); (d) use of peer tutors; (e) assurance of the child's attention to the teacher before explaining the material; (f) the repetition in explaining the material; (g) flexibility of the children out of the classroom to receive any other additional learning. (2) the assignment and assessment, consisting of: (a) writing a list of tasks for the students who cannot write; (b) making homework somewhat different from his (adjustable capability); (c) provision of tasks easier/less than other friends; (d) question directly to students; (e) provision easier question; (f) provision of assistance in the task; (g) reading matter for students who cannot read. (3) the demands of time and schedule: (a) giving a break to rest; (b) giving more time to do the task. (4) the learning environment, among others: (a) provision of a separate examination for children with limited attention / easy switch; (b) the placement of a child in the front row of seats; (c) request to parents to pay more attention to children's learning at home; (d) the placement of students in a particular group (equivalent to their ability).

The application flexibility of learning that had been adapted to the needs of children with learning disabilities. Some things to note in this stage is a response to children with learning disabilities and friends/other students (verbal and non-verbal) and the smoothness of Teaching and Learning (whether learning competencies can be achieved).

Based on the results of questionnaires, interviews and observations, the activity of which was never performed teachers among others are: (1) provide easier question when having test/quiz; (2) provide a separate test for children which have easily switch attention; (4) allow the use of calculators, tape recorders, or computers; (5) allow the child out of the classroom to earn extra lessons from a special teacher.

Activity ever undertaken of teachers, among others: (1) exploiting the potential of another from children with learning disabilities to raise the motivation to learn; (2) create a task that can be corrected itself by children with learning disabilities; (3) create a task with graded

difficulty levels, easy, rather difficult and tough; (4) consult with other experts.

The activities of teachers rarely performed, among others: (1) encourage other students to help children with learning disabilities; (2) allow another student to help students who have not completed the task; (3) placing children with learning disabilities on certain groups (the equivalent of their ability) while working on the task; (4) using media that can be touched by the children.

Activities which are often done by the teachers among others are: (1) ensure the children's attention to the teacher before describing the material; (2) provide additional lessons to explain the material outside of the effective; (3) create a task with graded difficulty levels, easy, rather difficult and tough .

Activities which are always performed by the teachers among others are: (1) inquiry directly to the student to make sure he understands the material presented; (2) ask parents/families pay more attention to children's learning; (3) provide repetition in explaining the material.

4. Discussion

The result of handling models of children with learning disabilities that the teacher of elementary inclusive school had done based on learning accommodation and modification. It was found the previous model is a general guideline which has not pointed at children with learning difficulties and specifically to learning accommodation and modification. The model contains flexibilities in 4 aspects: a) material giving and way of teaching, b) task giving and assessment, c) time demand and scheduling, d) learning environment. There were in line to the model design of children with specific learning difficulty handling based on accommodation and modification had developed from previous model obtained from Pujaningsih (2007) and continued by research by Sari Rudyati et al (2009). The previous model is a general guideline which has not pointed at children with specific learning difficulties and specifically to learning modification. This model contains flexibilities in 4 aspects: a) material giving and way of teaching, b) task giving and assessment, c) time demand and scheduling, d) learning area.

The result of analyzing children with learning disabilities and identifying an initial ability in mathematics and Indonesian language to recognize learning needs of student. In 15 elementary inclusive schools were predicted by the teachers of children with learning disabilities

about 115 children, but after done with screening only 50 children indicated as children with learning disabilities. This empirical fact showed the similarity condition between Indonesia and Thailand about identification of children with learning disabilities. In Chiang Mai Thailand 18 elementary inclusive schools were predicted by the teachers of children with learning disabilities about 120 children, but after done with screening only 68 children indicated as children with learning disabilities (Ratchaneekorn Tongsookdee, 2015).

Based on result of the questionnaire that the teachers answer show that most of teacher of elementary inclusive school still less of knowledge, acceptance response and skill to handle the children with learning with disabilities. This fact also similar with the finding of researcher from Chiang Mai University that most of teacher of elementary inclusive school still less of knowledge, acceptance response and skill to handle the children with learning with disabilities (Ratchaneekorn Tongsookdee, 2015). Teachers still not accepted, adapted and developed yet strategies appropriate to the conditions and needs of the children with learning disabilities in learning. It became a strong foundation in the early efforts to model development of the learning accommodations and modifications. This model seeks to meet the needs of teachers' knowledge, acceptance and teaching skills of children with specific learning difficulties without sacrificing other children.

Findings from this study indicated that the skills of 60 teachers in teaching accommodation and modification for children with learning disabilities had done still not adequately. Torey (2004) explained about the accommodation coverage which applied in the process of teaching and learning. There are some coverages of accommodation as follows: (1) material and way of teaching; (2) assignment and assessment in the class; (3) time demand and scheduling; (4) area of learning; (5) use of special communication system. Children with learning disabilities can communicate with surroundings through language with no special specification so that the use of special language is not discussed in this research.

5. Conclusion

Based on the research results and discussion, conclusions can be presented as follows: Findings from this study indicated that the skills of 60 teachers of elementary inclusive schools in teaching accommodation and modification for children with learning

disabilities had done still not adequately. The activities of teachers rarely performed, among others: (1) encourage other students to help children with learning disabilities; (2) allow another student to help students who have not completed the task; (3) placing children with learning disabilities on certain groups (the equivalent of their ability) while working on the task; (4) using media that can be touched and touched by children.

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THE IMPLEMENTATION OF LOCAL WISDOM-BASED LEARNING IN ELEMENTARY SCHOOL: THE ANALYSIS OF INSTRUCTIONAL MATERIALS FOR 2013 CURRICULUM

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Abstract

The objectives of the study are (1) to analyze the need of instructional materials for 2013 curriculum; (2) to describe the need of local wisdom-based instructional materials for 2013 curriculum. The study applies research and development method by Borg and Gall which is modified as needed. The descriptive qualitative research is carried out based on document study, field observation and the development of instructional materials. The collecting of qualitative data is carried out through interview and field observation at some state elementary schools in Bendorari subdistrict of Sukoharjo regency which adopt 2013 curriculum. The results of study are: (1) Based on the analysis of field implementation, it can be concluded that there has not been any instructional material which is able to fulfill the students' needs, the existing instructional materials are unable to reach students' familiar environment, moreover, the application of instructional materials by the teacher is hardly able to implement character values towards the students' themselves; (2) The need of thematic instructional materials development which is suited to students development, is able to reach students' familiar environment in order to support the teaching and learning process of 2013 curriculum. The development of thematic instructional materials is carried out by integrating local wisdom that is familiar to students in any learning environment. The local wisdom to be developed is the Javanese one. The local wisdom can be obtained from folklores, traditional artifacts, traditional songs, traditional dances, traditional houses, and traditional ceremonies which are conformed with 2013 curriculum. The result of instructional materials development is prototype of local wisdom-based instructional materials for elementary school students. It has a good validation from experts' assessment including subject matter, language, and design.

Keywords: local wisdom, instructional materials, 2013 curriculum.

1. Introduction

The implementation of 2013 curriculum is utilized by providing teacher's book and students' book as the instructional materials in teaching and learning process. Instructional materials play important role to determine whether or not learning process and learning objectives can be achieved. By utilizing instructional materials teacher has more time to guide the students in learning process, to assist the students to acquire new knowledge from any source or reference used in instructional materials, and teacher's role as the only source for knowledge would be diminished[1]

Instructional materials not only contain learning materials but also learning objectives as the existing curriculum demanded. Instructional materials should fulfill needs and are suited to the students' characteristics and the students' living environment. New challenge is faced after the government decrees the implementation of 2013 curriculum in spite of heavy influx of

globalization. Globalization should be responded by implementing strong character towards students. This is important because they need to have filter to anticipate the negative effect of science and technology advance.

The implementation of character value in the school learning process will be easier to do if it is closer to students themselves. It happens because they interact with their surrounding environment every day. Local wisdom which is the product of local people is very familiar to students' self. Local wisdoms should become the principle for Indonesians to face the influx of globalization[2]. Local wisdom is local ideas which bear traits of wisdom, prudence, virtue, tranquility and are followed by their people, created as the product of past culture that are important to behold as way of life persistently[3]. Local wisdom is ability to perceive and make use of potential of high-regarded local culture. Hence integrating local wisdom into education is very important to implement[4]. Local wisdom is the result of people's experience and ideas to cope

with ever-present problems in every aspect of human life which contains character values that are very suitable with the personality of Indonesian people. It is important to study, accustom and preserve it because the value itself is the most suitable and the nearest to students.

The next challenge is how to design implementation of local wisdom in education through learning. Instructional materials are believed to be a breakthrough in the effort of implementing local wisdom in learning. Instructional materials should reflect various virtues which the students should be aware of [5]. Virtue in local wisdom can be seen in every region, for instance of local wisdom in Central Java, there are ancient Javanese proverbs like “*Memayu Hayuning Bawana*”, “*Adigang adigung, adiguna*”, and “*Lembah Manah*” which are full of meaning to preserve lasting life among people and also people wisdom to live with the nature in harmony. Javanese people preserve those proverbs and teach them to every generation ever after. Those local wisdoms are needed to be used as the materials to engrave character value in every learning process. The urgency of the aforementioned instructional materials signals the need of their implementation which contains local wisdom.

2. Method

This study uses research and development method by Borg and Gall [6] which is modified as needed. The descriptive qualitative research is carried out based on document study, field observation and the development of instructional materials. The document analysis, field observation and development of instructional materials were carried out towards fourth-grade students at some state elementary schools in Bendosari subdistrict of Sukoharjo regency that adopt 2013 curriculum. The instructional materials then assessed by the experts, among them are thematic learning media experts and language experts.

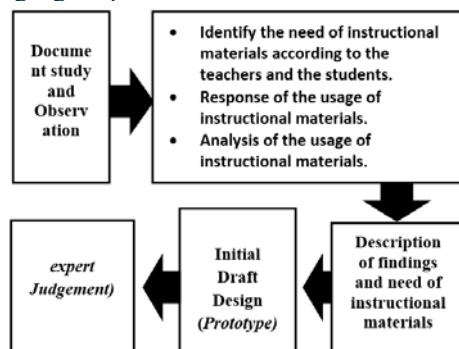


Figure.1 Sequences of Development Research with Necessary Modification

The Techniques of Collecting the Data

Collecting the data is carried out using the techniques of observation, in-depth interview, and document analysis. Observation is done to observe the teaching and learning process using the old learning materials, the teacher's activity in teaching them, and the students' interest in responding them. The result of observation data is field notes about anything obtained during the observation.

In-depth interview used in this study is semi-structured interview. It is expected to find the problems about thematic learning more openly. It is carried out towards the teacher and the students of fourth grade. Document analysis is carried out to analyze instructional materials which are used in the teaching and learning process of 2013 curriculum such as teacher's book and students' book. It is carried out to find out the suitability between the existing materials (students' books) and the degree of students' development, students' characteristics, and the implementation of character value.

The Techniques of Data Validity and Data Analysis

This study employs triangulation. Triangulation of data collection is used to obtain findings and to interpret data more accurately. Triangulation used in this study is technical triangulation. Data analysis used in the field study is done through interactive qualitative analysis according to Miles and Huberman encompasses: data reduction, data display, and conclusion drawing/verification [7].

The Techniques of Expert Assessment

Feasibility assessment of instructional materials used by the teacher and the students employs Peer-debriefing technique, which is mainly carried out by conducting more in-depth interview with the collaborators and nine related experts to assess whether or not the prototype instructional materials are feasible to use.

Language experts assess the feasibility and the suitability of prototype content based on assessment criteria on the language suitability and the characteristics of elementary students. The aspects emphasized on assessment by the instructional materials experts are the feasibility of instructional material design (presentation, graphics, systematics, language and readability) related to the good ones. Thematic instructional material experts give assessment on the suitability of the prototype arranged with thematic learning in accordance with the theme. The assessment of feasibility-quality is carried out by the initial draft design stage.

3. Result

The need of instructional materials

Teaching and learning process of 2013 curriculum using the old instructional materials is still focused on the teacher. The teacher is known to still dominate the teaching and learning process. To utilize the instructional materials, teacher must guide through every learning step in the students' book. The teacher gives a lot of lecture because the students have difficulties to comprehend the materials. Due to lack of any task to explore the students' activity, there is limited interaction between the teacher and the students. The students look less attentive to the learning process. It can be seen from whenever the teacher asks them about materials in their book; there are only small numbers of students who show willingness to answer.

Based on the result of interview with the teacher, it is known that the teacher has difficulties to convey materials in the old instructional materials. There has not been enough context of material for the students to understand in advance; hence they have not built knowledge of field about the material. It urges the teacher to re-explain and reintroduce the material from the beginning in every learning process. The teacher finds difficulties to implement character values using old instructional materials because their content is far removed from the students' actual environment. It makes them to spend more time to fully comprehend the material before finding the meanings and understanding its character value herein. Due to the process needed by the students to make them comprehend the material and find meanings through the learning, the teacher urgently needs practical instructional materials.

From the interview conducted with the students, it is identified that the students do not really like the old instructional materials. They are unable to identify their content well so that they have difficulties to comprehend the materials herein. Moreover, they do not understand the meaning lies in the learning material. They do not understand the values that can be taken from the existing material.

From the document analysis, in this regard is the old instructional materials, it can be identified that there are many materials which are far removed from the students' daily life, such as fictional stories related to the origin of certain region. It causes difficulties for the students to comprehend because they have never witnessed the region directly. From the students' book it can be said that there lacks supporting pictures to

help comprehend the story. The contents of old instructional materials which are thematic learning have not been completely related to each other. Furthermore, the materials in students' book have not given emphasize to implementation of meaningful character values for the students.

Based on the findings above, it can be concluded that thematic learning in 2013 curriculum needs development of instructional materials which is suited to the needs, the characteristics and it is necessary to adapt them to students' familiar environment. This is important to support the achievement of research objectives, the achievement of meaningful learning, and the integration of character values into students' personality.

The development of local wisdom-based thematic instructional materials

Local wisdom-based thematic instructional materials are based on the need analysis of data taken from field study. Local wisdom contains virtues that can be taken to implement character into students' personality. Local wisdom is human's knowledge and way to solve problem of both social-related life and nature-related life. In this regard, the local wisdom to be developed is Central Javanese one. Learning materials in the students' book are developed by implementing local wisdom in the form of folklores, traditional artifacts, traditional songs, traditional dances, traditional houses, and traditional ceremonies.

The development of thematic instructional materials can be conducted by integrating the virtues of local wisdom which is familiar to the students' life and providing with the supporting pictures, explanations, and activities that enable students to self-construct their knowledge in every learning. The learning materials are developed by still referring to standard competence and basic competence of 2013 curriculum. It is also necessary to employ any activities to support scientific learning (observing, asking, experimenting, associating, and communicating). In the end of learning session, it is needed to show local wisdom which is suited to the existing learning material.

The result of the instructional materials development is prototype of local wisdom-based learning material for elementary school. It has a good validation from experts' assessment including subject matter, language, and design. Therefore, the prototype is suitable to be implemented to the students as instructional materials.



Figure.2 The Example of Implementation Local Wisdom in thematic Instructional Materials



Figure.3 The Example of Intergration Local Wisdom in thematic Instructional Materials

4. Discussion

The result of need analysis of instructional materials in thematic learning shows that the development of instructional materials that is best-suited to the students' need is quite necessary. The teaching and learning process at school requires instructional materials which are able to fulfill the students' needs, are suitable to the students' characteristics, and are familiar to the students' environment. To support optimum teaching and learning process, instructional materials are vital components, hence they deserve special attention, because there are still many learning materials which do not have suitable conformity and depth relative to the level of students' development [8]. It causes the students difficulties to comprehend them. Instructional materials do not merely encourage the students to do, but also learn to be, and learn to live together both holistically and authentically aimed to plan and study the learning implementation[9].

The implementation of local wisdom in thematic learning through instructional materials is solution to respond recent need of thematic learning material. Local wisdom is very closely-related to the students. For the students, familiar environment will be easier to understand hence meaningful learning will be easier to achieve. Therefore, character values taken from local wisdom will also be easier to implement. Character-building education should be initiated from local culture which is manifested in the exploration of virtues found in local wisdom [10]

Furthermore in a research conducted by Mannan, Sopyan, and Sunarno (2015), they found that the development of local wisdom-based teaching instruments are able to develop students' positive characters and are positive to improve students' cognitive aspects [11]. It is supported by a research conducted by Azizahwati, Maaruf, Yaasin, and Yuliani that the achievement of students' learning outcome after undergoing learning process by using local wisdom-oriented teaching instruments improves as well. [12]

5. Conclusion

The development of thematic instructional materials that fulfill the students' needs, are suitable to their characteristics, and are familiar to the students' environment is urgently needed to support successful learning. The implementation of local wisdom in thematic instructional materials has resulted in a prototype which is presented according to the need analysis of thematic instructional material in elementary school. The prototype has been well-validated by the experts so that it is fit to implement it in the teaching and learning process at elementary school.

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THE IMPLEMENTATION OF STS APPROACH IN ADVANCED NATURAL SCIENCE LEARNING ON APPLICATION OF OPTICAL AND ELECTRICAL INSTRUMENTS' MATERIAL

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Abstract

The quality and performance of teachers are always considered as determining factors for the success of educational system and quality life of person in a nation. Pre service teachers in the primary education should be well equipped to meet the challenges of teaching primary science effectively in 21 century. The purpose of this research was to describe the implementation of Science-Technology-Society approach in Advanced Natural Science Learning on application of optical and electrical instruments' material by the pre service teachers in Elementary Schools Teacher Education Program, Faculty of Teacher Training and Education, Bung Hatta University in Padang West Sumatera to accommodate this challenges. One of the reasons is the lack of pre service teachers' ability in making application of STS approach and the application of optical and electrical instruments' material in advanced natural science learning. This research also aim to encouraging the culture of learning to be the power to improve the quality of teacher life. This research applied descriptive method. The instrument of the research was the researcher himself. The data were gathered through observation and documentation. Based on the results of the research, it was figured out that the students or pre service teachers, in groups, were creatively, innovatively, and successful to produce the models of optical and electrical instruments assigned such as projector and microphone, door bell or series circuit. It was suggested that the construction of the instruments models should be better and more attractive, used a flat mirror and it could use speaker box and AC power.

Keywords: STS, natural science, optical and electrical instruments

1. Introduction

Issues concerning quality of life still become crucial topics in the human life to deal with through comprehensive approaches as the problems of quality of life remain a primary concern in Indonesia and even worldwide. Such problems are very complex for they can result from both structural and cultural sources especially in education. The structural ones are related to the determinant of the situation and condition of the society education's structure that has not been optimally managed whereas the cultural ones are related to the society education's behaviour of not encouraging the culture of learning to be the power to improve the quality of student thinking.

Studies on the quality of life from educational perspectives remain important issues as they relate to the continuing viability of the society and country. Even the existence of a country is determined by its society's level of life quality in education. The quality of educational life which is understood as the perception of

individuals or learner as males or females in life, is seen from the cultural context and the value system where the student live, and its relationship to their living standard, hope, and attention, and is combined in a complete way with various aspects, covering the social relationship and their connection with the tranquility of the learning environment. This research findings in education or learning and its innovation is utilized to improve the learner's quality in science elementary teacher education. Their application, dissemination, adoption, and diffusion enable the learner to make use of them to improve the quality of their learning in science.

Science knowledge, in all its applications, permits humans to solve the problems of environment in which they exist. Science is a process of the discovery of the nature of things via observation [Lawson, 1995:28]. Science is a human activity that has evolved as intellectual tool to facilitate describing and ordering the environment [Carin and Sund, 1980:2]. Scientific concepts, theories and laws put forward by

scientists have an impact on the invention of technology. The development of science impacts the creation of technological progress. *Technology* is the collection of techniques, skills, methods and processes used in the production of goods or services or in the accomplishment of objectives [Liddell, Henry and Scott, 1980]. Technology was born by the needs of society. Society is a [large group](#) of [people](#) who [live](#) together in an [organized](#) way, making [decisions](#) about how to do things and [sharing](#) the [work](#) that [needs](#) to be done [Cambridge English Dictionary].

The advancement of science and technology are dedicated not only to facilitate the quality of human life, but also to educate human beings themselves with values to be high quality beings and more humble people to God. The development of science and technology basically aim to further simplify all activities performed by humans [Poedjiadi, 2010:59]. The development of science and technology lately is highly astonishing and generates several changes affecting almost every aspect of human life. Such development has also changed the cultural value, behavior and habits of people in doing interaction with others. It has connected and facilitated people to do their jobs and to deal with their life. Its also aim to improve the efficiency of doing our activities. One of the rapid developments in science and technology for society occurs in the field of communication; phones, computers, and internet which has diminished the physical barriers among people to communicate and has allowed them to interact freely on a global scale easily, cheaply and fast. The development of science and technology, basically, is intended to increase the welfare of human beings and the quality of human life. The quality of human beings is the key to using or applying the advancement of science and technology.

The development and progress in the field of science is highly essential for the advancement of technology. The principles of science are needed for technological development. When science is developed, technology then will also go forward. In order to make Indonesian people move forward and not left behind in science and technology, they must keep pace with the development from the beginning. A growing number of science educators believe we should recognize and have our students study the problems solving related to the interface of science, technology, and society need or human existence as early as in the elementary school grades [Esler and Esler, 1996:178]. This notion implies that science must be learned earlier by the children of Indonesia to produce a generation

who are awake, alert, expert and skillful, and was not left behind in the application of science and technology. To deal with this expectation, the government has formulated the goals of Natural Science education from Elementary School level. As stated by the Ministry of Education in the curriculum (2006:484) that the learning objectives of Natural Science in primary schools are to develop knowledge and understanding of the concepts of science that are useful and can be applied in everyday life, and to develop curiosity, positive attitude and awareness of the existence of mutual relationship among science, environment, technology and society. Science is one of the subjects in elementary schools that could facilitate the students to develop the knowledge and the concepts of science to create a simple and applicable technology for society. To realize the goals of Natural Science education, knowledge enrichment, improvement and innovation over the learning process are needed.

Natural Science education in primary schools has been less "grounded" because a lot of materials seemed to be unrelated to the students' real life. Consequently, many students felt that learning Natural Science was less meaningful. The natural Science learning process in Elementary School was not able to facilitate the students to develop technology as if science and technology are not interrelated. To deal with the development of science and technology, the learning process at elementary schools teacher education should be adjusted to and must be more innovative to improve the quality of student' learning. Hence, the Natural Science learning process could keep pace with the advancement of technology and be more meaningful for the students and the society in general (Asy'ari, 2006:2).

The quality of science and technology learning process is highly dependent on the quality of teaching. The quality and the performance of the teacher always become the factors determining the success of education in Elementary School. If the children of Indonesia want to move forward and be able to keep pace with the developments in science and technology in the 21st century, the quality of Natural Science learning process in Elementary School must be improved and made innovative. In addition, the teachers' education about science and technology also should be increased. The improvement could be done by applying science and technology in the learning process that can be used for the future development of science learning media. The availability of the media of simple technology is expected to increase the quality and

the effectiveness of learning process. They would help the teacher in delivering the learning materials and enable them to explain the way the principles of science work and the way they are applied in real life. The use of technological media in the learning process which has been adjusted to the development of 21st century would motivate and raise the students' interest in learning. Educational institutions need to prepare either the teachers to be or the official teachers with the knowledge of this need. It is highly dependent on the educational programs offered and the expertise of the lecturers of the institution in Natural Science subject.

The teachers' lack of knowledge and their low level of education were assumed as the factors generating the low quality of Natural Science learning process and innovation. The teachers never applied the principles of science to design simple and applicable technology. This also was not supported by the availability of the books about application of science and technology in the market.

Based on the researcher's experience in teaching Elementary School teachers in the Elementary School Teacher Education Program, Faculty of Teacher Training and Education Bung Hatta University Padang since 2010 in Advanced Natural Science subject and the result of observation done with the students doing their final task, it was revealed that the quality of the Natural Science learning process conducted by the students was not yet as it was expected. It covered the science conceptual understanding, the application of science in daily life and the use of the principles of science in designing simple technology in the learning process. Based on the observation done toward the students while studying Advanced Natural Science in even semester 2016, it was figured out that less than 1/7 of 41 students felt that they have good qualifications in teaching science. Most of the students felt uncomfortable and had lack of qualifications in teaching application of science and technology. To be able to apply scientific concepts in simple technology that is useful in elementary school, the quality of the teacher's education should be enhanced.

Science, technology and society learning should be applied in Elementary School. This was conducted by applying Science-Technology-Society (STS) approach. STS approach is a learning approach that basically discusses the application of science and technology in the context of everyday life. Therefore, the STS approach is also known as an integrated approach between the scientific and technological issues in society. With this approach, the students are

required to have willingness and be able to apply the principles of science to produce simple technology as well as offer a solution to reduce the negative impacts that may arise.

STS is also defined as the teaching and learning of science/technology in the context of human experience. STS is to relate science specially to technology and to the society that supports and produces new conceptualizations of both. It focuses on a method of teaching that recognizes the importance that experience in the real world has on the learning process. And it recognizes that real learning can occur only when the learner is engage and able to construct her or his own meaning (Yager, 1996).

Thus, the teachers in teaching science can use STS approach to build the students' conceptual understanding and to develop the concepts for the benefit of society (Ash'ari, 2006:55). According to National Science Teachers Association (NSTA), STS approach is learning and teaching science and technology in the context of human experience (Yager, 1996). In the STS approach of Yager, it is suggested that the learning process should be conducted constructively. Yager (1996:32) states that there are four phases of the syntax of STS learning model covering invitation phase, exploration phase, explanation and solution phase, and taking action phase.

In this research, the principle of science applied by students to create a simple project was the application of optical and electrical instruments' material in daily life. *Optical instrument* is an instrument designed to aid vision. The products made are a projector, a doorbell, and microphone. Optical and electrical material was chosen as it was closely related to the advancement of technology in the field of today communication aid. In addition, its application is easily found in everyday life with easily available materials at low cost. So that, the students, by applying science and technology, could design simple communication aid instruments. The product designed could be used as learning media to see how the principles of light properties and series circuit exactly work.

The research from Yager and Casteel (1966, 1968) indicated that students were able to attain and to retain many skills and competencies defined as science literacy. Such skills and competencies were not developed as a result of study in standard social studies or science courses.

In order to increase the quality of Advanced Natural Science learning process in Elementary School Teacher Education Program, to make the pre service teachers not left behind and to make

the learning process more meaningful and give the students opportunities to apply their knowledge through simple technological projects which can be used as an interesting learning media for the students, conducting descriptive research with application of STS approach was viewed relevant and important.

2. Method

This research used descriptive method through which the researcher tried to describe the application of STS approach in Advanced Natural Science subject for the pre service teachers at Elementary School Teacher Education Program, Faculty of Teacher Training and Education Bung Hatta University Padang in implementation STS approach in Advanced Natural Science learning by applying the principles of science. The objects of the research were 41 students; 7 male students and 34 female students in program of PGSD (Primary School Teacher Education) study program taking Advanced Natural Science course. This research was conducted in one of the classes at Building 2.1.1.1 at Campus II Aia Pacah University Bung Hatta Padang, West Sumatera on Mei 2016. The research was done in three meetings on Thursday. The data were collected through observation and documentation. The researcher, in this research, also had a role as the instrument. The data gathered in this research were in the form of qualitative data. The data obtained then were analyzed by using descriptive analysis.

The implementation of STS approach in this research can be described as follows. In invitation phase, the researcher encouraged the students to show their initial knowledge about the application of concepts and principles of dynamic electricity in accordance with the materials to be learned. In this phase the researcher asked several questions to the students about the use of optical instrument and electric instrument in their daily life. The students were given opportunities to communicate and illustrate their understanding of the concepts and principles of properties of light and dynamic electricity. Furthermore, the students' answers were connected to the materials to be taught. Then, the explanation about optical instrument and dynamic electricity and the examples of its application and uses were given.

In exploration phase, the students had chances to do investigation to find the concepts of properties of light and electricity and the use of properties of light and electrical principles through activities of designing prototype of simple technology project whose design had

been prepared by the teachers previously. In this phase, they collected the data, practiced scientific process skills and carried out scientific work. Firstly, before the product was made, the students were divided into six groups in which they discussed about designing the prototype of simple technology project by applying the principles of science given by the researcher. Each group discussed about the picture of product prototype including what materials were needed, what kind and where to get it, how to make it, how it worked. They also could ask questions about other things they did not understand especially about the picture given. The students also asked about the shape or the construction they could possibly make, whether it is acceptable or not. Because to produce the product took a long time, the students could do it at home and brought it in the next meeting (next weeks).

Furthermore, in the second meeting, explanation and solution phase was done. In this phase, each group of students delivered their explanation regarded to the solution of making the prototype of simple technology project that had been already done. They explained about the way the product worked and how it could work. The researcher would give clarification when they made mistakes in delivering the information. Other groups observing the presentation were allowed to ask questions and responded to what had been delivered and done. The respective group was also asked to submit a summary and a conclusion of a given task. In this phase, the students integrated the solution with the theories found in the books, and build new understanding (according to the theory of constructivism) about the concepts of properties of light and electricity; series circuit that can be generated by the electricity they had already learned.

The fourth or the last stage of the implementation of STS approach was taking action phase. In this phase, the respective group shared information and ideas, asked follow-up questions regarded to the possibility of further development of the products, and gave suggestions. They also could share knowledge and skills they acquired to be used in the learning process of Optical Instrument and Electricity in grade IV. Finally, after each group had presented their work, the researcher, as a lecturer, explained other applications of optical instrument and electricity that had been and possibly be made by the experts. This was done to give meaning to the work the groups had already done.

3. Results and Discussion

Based on the implementation of STS approach in Advanced Natural Science course in designing simple technology products by applying the concepts of properties of light and electricity, it was revealed that all of the groups were creatively and successful to complete the tasks given. All of the tools produced on optical instrument especially projector that used incandescent lamp as projector worked appropriately as they were expected. Projector that used magnifying glass didn't result clear picture in the screen. This can be fixed with additional flat mirror in its construction box. The groups could well explain the principles of science that work on the tools. The only shortage found in these tools was in their construction which is still less attractive and not well-built. In addition, the tools could not use AC power and more sound can be heard loudly if projector and microphone use speaker box.

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SCHOOL STRATEGY IN IMPLEMENTING MULTICULTURAL EDUCATION IN SENIOR HIGH SCHOOLS IN INDONESIA

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Abstract

In the 21st century multicultural education became a global commitment. There is a strong need toward the development of multicultural education model to face the global challenge. This research aims to answer two problems: 1) how the programs developed for multicultural education at school; 2) how the strategy of schools in implementing multicultural education to build in schools. The research was conducted in Senior High Schools Yogyakarta in Indonesia. The research is qualitative research study in which the subjects were teachers and students. The data analysis was done by reducing the data collection and presenting the data. Data triangulation was performed by the repetition of information obtained through a variety of methods, sources of data, time, and settings. The data were collected through interviews and observations. The research reveals some points school strategy in implementing multicultural education among others: 1). school programs which are developed should pay attention to students' socio-economic and cultural background, as well as the students' talents; 2) the strategies in multicultural education in school, among others: a) content integration, b) an equity pedagogy, c) prejudice reduction d) an empowering school culture and social structure.

Key word : multicultural education, school, strategy

1. Introduction

Multicultural education became a global commitment as recommended by UNESCO in October 1994 in Geneva. This recommendation contains four ideas. First, education should develop the ability to acknowledge values of individuals, sexes, societies, and cultures and the ability to communicate, share, and cooperate with each other. Second, education should establish identity and encourage convergence of ideas and solutions to strengthen peace, brotherhood, and solidarity among individuals in the society. Third, education should increase the ability to overcome conflicts peacefully. Fourth, therefore, education should promote peacefulness in the mind of students so that they can build a higher quality of tolerance, patience, and will to share and maintain peace.

In the 21st century they need to increase their understanding on the cultures of others. They need to have a modern vision in this global era. In Indonesian context, youth need to take in the values of Unity in Diversity and have them implemented in the society. Positive appreciation on ethnic identities, which are composed of culture, language, physical appearance and skin color is strikingly important (Zamroni, 2011). Indonesia has to become a nation with both national and global competence. That is why schools play an important role to prepare youth

to possess the understanding of national and global culture. The world changes from time to time, therefore, Indonesia has to be ready and more open to interact globally.

Multicultural education is a process of social transformation. In this context, a progressive approach is needed to transform education comprehensively by removing weaknesses, failure, and discriminative processes in education. Multicultural awareness is not introduced in the process of teaching and learning, or considered important in education. In this case, Zamroni's ideas on the paradigm of multicultural education are not yet implemented. In fact, the paradigm is important since multicultural education is the center of education equality for all. Second, multicultural education is not simply a change in term of curriculum or method of instruction. It leads to the direction of education. A wrong effort to decrease inequality in education will result in more inequality. Multicultural education aims to bridge the gap between curriculum and teacher's character, pedagogy, class situation, and school culture to promote equality in education (Zamroni, 2011).

The ideas on multicultural education keep to be reviewed and developed to be implemented in the teaching and learning process. There is a strong need toward the development of multicultural education model to face the global challenge. In reference to this, a country that is

successful in implementing multicultural education. Indonesia needs to learn about it from this country because in Indonesia it is not widely applied. There are structural and cultural constraints to establish multicultural education policy in all educational levels. In addition, social problems due to the lack of understanding of multicultural education perspective keep occurring.

Understandings of multicultural education and diversity in education involve ideas, beliefs and understandings that social or societal change, even social transformation is possible via schooling. The reduction of prejudice and racism in a heterogeneous society, for example, can be reduced by using sectors within the national compulsory education system to help young people learn tolerance, mutual understanding for difference and diversity, in all its forms, by not only learning *about* difference, but also *how* to interact with others who are different via language, respecting and being able to enact other cultural mores and perform with competence in other socio-cultural contexts and settings.

Schools have a strategic role to develop programs to support multicultural education. However, most schools do not specifically create a program associated with the implementation of multicultural education. Schools are the sites of enactment of such policies – the main players within these sites will be school leaders—for example, principals—and teachers. This proposed study focuses on the examination of school understandings of multi-cultural education and principles of diversity. In addition, perspectives on how these beliefs and understandings are experienced and implemented in their respective schools are of interest.

2. Objectives of the Research

This research is part of a larger project that aims to reveal the characteristics of multicultural education in high schools in a cross-cultural comparison between Yogyakarta, Indonesia. Specific research questions are:

- 1) how the programs developed for multicultural education at school;
- 2) how the strategy of schools in implementing multicultural education to build in schools.

3. Research Method

Research conducted in Senior High Schools Yogyakarta. Data were collected through questionnaires, active participation, observation,

FGD (teachers) , and documentation. The data collected were those related to the practices and problems of multicultural education. Moreover, data collected within this research were in the form of quantitative data.

4. Result and Discussion

Goals of Multicultural Education

Multicultural education is important for all students. Nieto (1992) explains that multicultural education aims to provide an anti-racial education, which takes into account basic skills and knowledge for all. It can break barriers present in all aspects of education system. It contributes to the development of attitudes, knowledge, and skills that enable students to increase social welfare, in which culture is a variable that is important for academic success. It allows a critical education emphasizing on social knowledge and helps students develop their skills of making social decisions and attitudes.

Banks (2002:14) states that multicultural education is a way of thinking to face reality, not simply some knowledge of ethnicity, race, and culture. To be exact, Banks describes five dimensions of multicultural education, i.e.:

1. Content integration, which is concerned with how teachers use examples and various cultural content to describe concepts, principles, generalizations, and main theories used in their subjects or fields of study
2. Process of knowledge building, which is related to how teachers help students understand, observe, and learn implied cultural values, perspectives, and prejudices
3. Reduction of prejudices, which focuses on the characteristics of students racial attitudes and how these attitudes can be reshaped using a certain teaching method and material
4. Pedagogy of equality, which is present when teachers transform their way of teaching to promote the academic achievement of students coming from various ethnicity, culture, and social class
5. School culture and structure, which include the practices of grouping and naming sport participation, achievement, and interaction among staff and students of various ethnicity and race

Fulfilling all these five dimensions, students will have the capability to construct their ideals on the basis of what they learn. They will

also develop an understanding of how they react to social problems.

The main goal of multicultural education is to improve academic environment and atmosphere by increasing the respect or attention addressed to various cultural groups to facilitate equality in education (Banks, 1987: 29-30). In addition, Pay (1990: 109) explains that multicultural education is the most important goal of lifelong learning. The main issues related to multicultural education are social justice, democracy, and human rights (Tilaar, 2003: 67). These aspects, even though closely related to economy, politics, and law, are also related to education. Education is important for producing people who are oriented toward social justice, have democratic political vision, and respect others' rights. In short, multicultural education deals with political, social, cultural, moral, educational, and religious issues (Tilaar, 2003: 168). It would be difficult to achieve a complete understanding of multicultural education without investigating these issues.

In its efforts to minimize conflicts, multicultural education helps students: (1) understand personal and cultural background of an individual or group in the society, (2) respect and appreciate the variety of culture and ethnicity, (3) reduce ethnocentric and prejudicial way of thinking, (4) understand social, economic, psychological, and historical factors that cause ethnic polarization, (5) increase the capability of analyzing problems critically through a democratic process to envision a better, fairer, and free society, and (6) develop a meaningful identity for everyone.

Some of the expected outcomes of multicultural education according to Zamroni (2011) are:

- a. Students possess a high level of critical thinking, so that they can review learnt materials critically and comprehensively.
- b. Students obtain the awareness of the prejudices they make to others, review why and how these occur, and keep learning to remove these prejudices from them.
- c. Students understand that every discipline has both positive and negative aspects, which will emerge depending on those learning it.
- d. Students have the skills to use and implement the knowledge they get.
- e. Students act as learning persons who will always learn throughout their life.
- f. Students understand that the ideals they construct based on their disciplines can only be achieved by hardworking.

- g. Students understand the relationship between what they learn and their nation's problems and conditions.

Based on the opinion that the outcome of the process Zamroni multicultural education can develop the personal dimension and the social dimension, both teachers and students.

Strategies of Multicultural Education

Multicultural education is developed differently from one country to another. Its development is based on the problems that a country experiences. Banks (1993) explains that there are four approaches, which are relevant to Indonesian education, in integrating multicultural education in school curriculum, i.e.:

1. The contribution approach

This is the most common approach, which is also the first stage of ethnic revival. One of the examples of its use is putting the images of national heroes coming from various ethnicity and culture in related school subjects. Indonesia has implemented this.

2. The additive approach

In this stage, there is an effort to enrich learning materials, concepts, themes, and perspectives in the curriculum without any changes in the basic structures, objectives, and characteristics of the curriculum. This approach is supplemented with books, modules, or discussions that do not lead to any substantial changes in the curriculum.

3. The transformation approach

This approach is different from the previous ones since it changes the basic assumptions of a curriculum and promote students' competence in addressing concepts, issues, themes, and problems using some ethnic perspectives that center on the main item discussed in subjects.

4. The social action approach

This approach includes all elements in the transformation approach, with an additional component that inquires students to make actions related to learnt materials in school subjects. Its main goal is to teach students to deliver social criticisms and make decisions. In this case, schools help students become reflective social critics and trained participants to respond to social changes.

With the above strategies teachers can select and design a learning process about socialization concept of multicultural education in accordance with students' backgrounds

Programs of Multicultural Education at School

An interesting thing which should be appreciated is Indonesian schools, especially High School because even though there is no policy associated with multicultural education, schools in general have applied a principle of multicultural education. The principle is that schools facilitate and accommodate talents and interests in accordance with the students' wishes regardless their ethnics, regions, and groups. Schools cooperate with domestic schools or schools from other countries. School programs which are developed should pay attention to students' socio-economic and cultural background, as well as the students' talents. Therefore, schools hold classes which accommodate the students' talent, similar to talent classes such as language class, research class, tahfid class, and National Science Olympiad (OSN) class. Besides, schools have held corporation programs with other regions, provinces, and countries; schools have also held corporation program at the national level, i.e. character building program and student exchange program. Program being developed by schools focus on multicultural education and principles of diversity which cover :

- a. Schools facilitate students in holding classes which accommodate their talents such as language class, research class, tahfid class, and National Science Olympiad (OSN);
- b. Schools cooperate with schools in the same country and in the foreign countries;
- c. Schools hold interregional, interprovincial, and international cooperation programs and character building programs, and student exchange programs;
- d. Schools hold a graduation ceremony according to the students' areas;
- e. Schools hold an outdoor learning;
- f. Schools implement local content and extracurricular programs;
- g. Schools hold social services, literacy, pojok baca, pesantren, tadarus, or music performances;
- h. Schools hold interregional and international student exchange, i.e. Asian's corner and final performance at the end of a semester;
- i. There are four programs with a person in charge in each room, i.e. sister school and short course.

Senior High School teachers give an illustration about various and interesting multicultural programs. As explained by FGD of Senior High Schools, the results show that programs related to principles of multicultural

education such as programs for multi-talents to develop diverse potencies, understandings towards tolerance, and respects in accordance with the students' religious teachings. The religious teachings can be in the forms of freedoms for students to pray according to their religious beliefs or a chance to do other religious activities. Besides, the principles of multicultural education also covers other programs such as visitation, student exchange, GVT (to introduce cultures), Multi Talent Program (to accommodate cultures and talents), ICEF (an interregional and international student exchange program), Aminef Program (teacher exchange), interregional Student Exchange, AFS (student exchange across countries).

Schools want to implement the principles of diversity and multicultural education. It is revealed in the Senior High School teachers' FGD results stating concluding that some schools have a plan to implement the principles of diversity or multicultural education. For example, students and teachers are prepared to join a contest associated with culture, an application of school order, or a boarding service. Besides, schools require a boarding school which enables teachers to identify each student and help them to cope with the differences. Similarly, Senior High School teachers state that multicultural education has not been implemented in all schools. However, several schools have directly and indirectly done activities mirroring values of multicultural education by being fair to every student in giving them education service. Some programs associated with students' interests is appreciated and become as a superior program at school.

According to Senior High School teachers, initiative mentoring originating from organizations outside the school will be done if it is needed such as educational institutions, police, law institutions, Faculty of Psychology, IBBS (Indonesian Boarding Bilingual School), Ocean, courses in cooperation with IBBS, BLH and other relevant institutions agencies in accordance with the needs of the school, i.e. UAD which sends its foreign students to teach in schools. While high school teachers found out that the optimal assistance has not been done, some schools have started for establishing cooperation with several organizations and institutions from outside the school for improving the quality of schools. School accepted visits from outside the region and the country; GUT (Gladi Vidya Teladan), in the program, it is introduced the culture which must be understood; Multi Talent Program: Accommodates culture values and the talents; ICEF program; Student exchange

programs between regions / countries; Aminef program (teachers exchange), Student Exchange Program among regions, Student Exchange programs among countries (AFS).

School Strategy in Implementing Multicultural Education

School strategies in implementing multicultural education and principles of diversity have been implemented by the school. It is revealed from the FGD with senior high school teacher who claimed that school strategies in the implementation of multicultural education have directly and indirectly been done by the school in several ways:

- Inserting principles of diversity in every learning process for using a possible method which can emerge and implement multicultural education in all subjects;
- Singing Indonesia Raya before the teaching-learning process is started;
- Holding the study exchange activity with schools from other countries such as Japan, Korea, Thailand, and Malaysia;
- Class division is randomly arranged, it does not consider the students' label;
- Familiarizing and applying full respect for diversity in the school;
- Creating policies that develop school;

- Exploring and demonstrating the cultural diversity that the students are able to see, understand, and respect through various programs. Schools are also designing a curriculum that implements multicultural education;
- Applying the choices of extra curriculum;
- Placement of students of different religions in each class;
- Students are expected to have better understanding and to respect the existence of diversity;
- Learning with a variety of cooperative learning model (a cooperation which does not distinguish the individual);
- Not accentuate the differences and show unity in in the school services.
- Such as social service like Eid al-Adha (Qurban) to the target area;
- Integrating multicultural education in each subject.

According to the results of FGD, teachers, observation, and documentation at Senior High School in Indonesia, there are tendencies that schools have implemented five dimensions of multicultural education formulated by Bank as follows:

Content integration , which is concerned with how teachers use examples and various cultural content to describe concepts, principles, generalizations, and main theories used in their subjects or fields of study.	Teaching students to respect and tolerate others; Integrating values of diversity in all subjects; Putting quotations for students to respects differences at school
Process of knowledge building , which is related to how teachers help students understand, observe, and learn implied cultural values, perspectives, and prejudices	Analyzing movies with cultural themes Holding an interracial meeting to discuss about cultural issues Holding international stage performance Holding student exchange program Dividing classes based on races or abilities in the class
Reduction of prejudices , which focuses on the characteristics of students racial attitudes and how these attitudes can be reshaped using a certain teaching method and material	Forbidding bullying Building justice and wisdom for students Supporting students to understand and respect other students' culture Requesting students to avoid verbal or physical quarrels due to racial difference
Pedagogy of equality , which is present when teachers transform their way of teaching to promote the academic achievement of students coming from various ethnicity, culture, and social class	Holding cultural stage performance on the scheduled school orientation and farewell Improving an extracurricular cultural study Offering foreign language learning Inviting educators from the country or other countries
School culture and structure , which include the practices of grouping and naming sport participation, achievement, and interaction among staff and students of various ethnicity and race.	Holding cultural week Holding a student exchange program Inviting students for a study tour to other region or other country Holding a seminar on international cooperation Exhibiting cultural products from other country or race to describe their cultural diversity.

5. Conclusion

Schools have a variety of programs in accordance with the principles in the

implementation of multicultural education by observing the different socio-economic-cultural and student talents. Schools develop a variety of learning strategies in implementing

multikultural education both directly and indirectly. Education teachers in implementing the strategy multikultural among other things: a) the content integration, b) an equity pedagogy, c) prejudice reduction c) an empowering school culture and social structure.

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ANALYSIS STATISTICS PER-GAME ON INDONESIAN BASKETBALL LEAGUE SERIES III YOGYAKARTA 2016

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Abstract

This research aims to find out how to analyze the match of basketball based on the statistics of the match on the IBL (Indonesian Basketball League) series III Yogyakarta 2016. This research method using the deskriptif statistic. The population of this research is the participant of Indonesian Basketball League Series III of Yogyakarta 2016. Research on sample taken using six teams from the twelve teams Indonesian Basketball League (IBL) Series III of Yogyakarta 2016. Instrument in this study was FibaLivestat. Data obtained in this study either a print out of the statistic team form of quantitative data and processed into qualitative data are described in detail. The researcher found some aspects of the team ability in this research. These aspects include: (1) shooting ability, (2) ball handling ability, and (3) defending ability. The ability to shoot consists of: (1) field goal, (2) 2 point shoot, (3) 3 point shoot, and (4) free throw. Ball handling ability consists of: (1) assists, (2) turn overs, and (3) offensive rebound. The defending ability consists of: (1) steals, (2) intercepts, (3) block shoot, and (4) defensive rebound. The results showed that the IBL Series Yogyakarta 2016 basketball team ability was still under standard that is 0,51 shots per game. Beside, their ball handling ability was still low. They were only able to do 12.5 assists per game and an average of 24.75 turn overs per game. Then, the low ability in defense was shown by 15.9 steals and intercepts per game and only 6.3 blocked shoots per game.

Keywords: game analysis, statistics, IBL, team, basketball

1. Introduction

Technological developments in a basketball game today is more advanced, this is evidenced by the many media or gadgets that are used in the process of training and competition or game. Any tools or gadgets that already exist do indirectly contribute significantly to the process of training and competition. Expectations of the development of technology in the game of basketball are expected to further advance the development also basketball in the world. Some countries are using technology in the process of training or during a match we can observe the results, so that our country should also adopt some of the technologies that can be applied in the basketball national team and local estuary capability makes basketball Indonesia par with other Asian countries such as Philipine, Japan, China, Iran and Australia. The reality at this point in the area, namely statistics team, especially in the sports world has not been significantly exploited or used. In fact, if we see tremendous benefits should though statistics team must have a team to support valid data and appropriate analysis to see the ability of the team that is prepared to face the competition, namely when practicing.

At the time of the competition or match the benefits of statistics to help the team coach to see

who will face an opponent's abilities to apply the tactics in the match. Importance of statistical benefit in a basketball game is supposed to be followed up with the assistance or the need statistics team in contingent prepared to face either event IBL, or other national events. In February 20-26 2016, Indonesian Basketball League Series Yogyakarta will be held in Yogyakarta Special Region of Yogyakarta, where teams from each region would represent like a CLS Knight Surabaya, Garuda Bandung, Stadium Happy 8 Jakarta, Satya Wacana Salatiga, Bimasakti Nikko Steel Malang, dan Pacifik Caesar Surabaya.

Need to be addressed and also realized that in theory and reality that athletes should be given an appreciation for the power struggle and hard work in practice and also indirectly bring the good name of the area, have to spend for costs represent the area in the national event. It is highly inappropriate, it is necessary to change the system of sports in Indonesia. Last Achievements at the Sea Games in Thailand men's basketball team lost a large 4, which is the material then the team Indonesia is still dominated by young athletes who still less experience. In the year 2016, the material from clubs is pretty good team.

2. Method

Types of research

In accordance with the existing problems, this kind of research is quantitative descriptive approach for the results of the research presented in the form of images. Descriptive is the kind of research that give an idea or commentary on a situation as clear as possible without any treatment of the object under study.

Place and time of research

Research Sites

This research will be carried out on GOR UNY Yogyakarta.

Research time

The time in the conduct take the statistic per game in February 20-28 2016 in GOR UNY Yogyakarta.

Population and Sample

Population Research

Population is the generalization region consisting of: objects / subjects that have certain qualities and characteristics defined by the researchers to learn and then drawn conclusions Sugiyono[8]. From the definition above, the population of the population in this study were teams which participants in Indonesian Basketball League Series Yogyakarta 2016.

Sample Research

In this study the sample was six teams from twelve teams male which participants in Indonesian Basketball League Series Yogyakarta 2016. The six teams are CLS Knight Surabaya, Garuda Bandung, Stadium Happy 8 Jakarta, Satya Wacana Salatiga, Bimasakti Nikko Steel Malang, dan Pacifik Caesar Surabaya. In

this study using purposive sampling is a sampling technique based on the rank or the needed resources to research.

Data Collection

Data collection techniques in this study using an instrument namely FIBALive-Stat. Once the necessary data is collected, we then analyze the data. According Sugiyono[8] Descriptive statistics are statistics used to analyze data in ways that describe or depict the

data that has been collected as it is without making inferences or generalizations apply to the public. Data analysis techniques used in this research is by calculating the mean or mean or central tendency measurements, median, mode, and standard deviation. The explanation is as follows: 1) The mean, median, and modes; 2) Table inclination variables. According to Saifuddin Azwar[7] to determine the category score components used norms as follows:

Table 1. Category Score

$X < (\mu - 1,0\sigma)$	Less
$(\mu - 1,0\sigma) \leq X < (\mu + 1,0\sigma)$	Average
$(\mu + 1,0\sigma) \leq X$	Good

Meanwhile, to clarify the frequency distribution data dissemination in the presentation of the data, it can be presented in the form of a graph or diagram, which diagram is based on the frequency data that has been shown in the frequency distribution table.

Statistic in FIBALiveStat

The role of statistics in the sport of basketball today are very important, in which technological developments rapidly, teams that have large funds typically use help technology to support the work of coaches on the field during practice or matches or competitions. The result is maximum performance can also be expected to coach because it is supported by a team of supporters in particular about the athletes capability and statistical data are also opposed to aregular partner. Specific statistics in the sport of basketball is the FIBALive-Stat. FIBALive-Stat contain of:

1. Field Goals
2. 2 points
3. 3 points
4. Free throws
5. Rebound
6. Assist
7. Turn over
8. Steals/Intercepts
9. Block shots

Table 2. Statistics in Basketball (FIBA Livestat)

No.	Name	MIN	Field Goals		2 Points		3 Points		Free Throws		Rebounds			AS	TO	ST	BS	PF	FD	Eff	Pts
			M/A	%	M/A	%	M/A	%	M/A	%	OR	DR	TOT								
3	Firdaus Iqbal	16:47	3/7	42.86	3/4	75	0/3	0	0/1	0	3	4	7	3	1	0	0	0	2	12	6
5	Akbar Fitra Afriana	13:58	2/10	20	1/6	16.67	1/4	25	0/0	0	1	1	2	0	1	2	0	1	0	-1	5
9	Maryono Untung Gendro	21:50	1/4	25	1/4	25	0/0	0	2/4	50	4	3	7	1	3	0	1	1	4	8	4
10	Wilopo Tri Wijoyo	17:46	0/5	0	0/1	0	0/4	0	2/3	66.67	1	1	2	0	1	0	0	1	1	-3	2
13	Afriatna Saleh	9:18	1/3	33.33	1/1	100	0/2	0	0/0	0	2	0	2	1	1	3	0	0	0	5	2
*16	Tiara Andre	21:27	5/10	50	5/10	50	0/0	0	3/7	42.86	2	3	5	4	2	3	0	1	6	18	13
17	Herkusdityo Haritsa	DNP																			
*20	Apriyana Romadonsyah Teddy	21:46	1/7	14.29	0/4	0	1/3	33.33	0/0	0	1	5	6	1	0	1	0	2	0	3	3
28	Yudha Pratama Fendi	10:48	0/5	0	0/5	0	0/0	0	0/0	0	5	3	8	1	2	3	0	0	1	2	0
*32	Martinus Luke	22:28	5/9	55.56	5/8	62.5	0/1	0	1/3	33.33	1	5	6	1	1	2	0	1	3	15	11
*52	Suriyadin Suriyadin	20:33	4/11	36.36	3/9	33.33	1/2	50	1/4	25	0	6	6	2	1	3	0	1	2	10	10
*88	Augus Lutfi(C)	23:12	2/4	50	1/1	100	1/3	33.33	1/4	25	1	5	6	1	5	4	0	1	2	8	6
Team/Coach																					
Totals:		200:00	24/75	32	20/53	38	4/22	18	10/26	38	22	39	61	15	20	21	1	9	21	16	62
Coach:		OCTAVIARRO ROMELY TAMTELAHITU																			
Assistant Coach		MUHAMAD HOSIM										A MOOSA PERMADI									

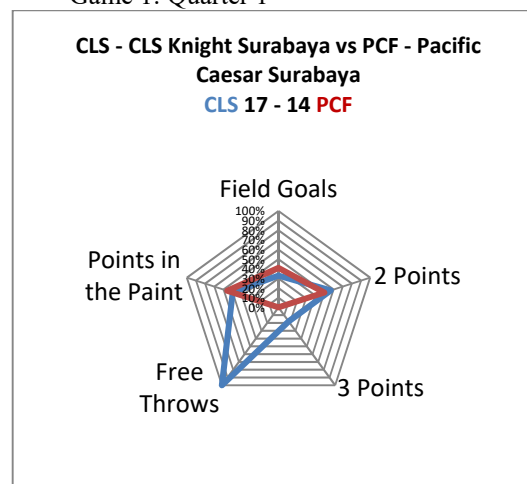
Based on the data team stats will deliver analysis results linked the ability of both the team and the opposing team, so the coach has a valid basis picture data to determine the decisions taken. This research is a quantitative descriptive study, which examines the statistical capabilities male team Indonesian Basketball League Series Yogyakarta. According Suharsimi Arikunto[9] descriptive research is research that is intended to investigate the circumstances, conditions, or other things that have been mentioned, the results are presented in the form of a research report. The method used in this study is a survey and data collection techniques assisting with the assessment rubric. According Sugiyono[8] population is the generalization region consisting of: objects / subjects that have certain characteristics quality and defined by the researchers to learn and then drawn conclusions. According Suharsimi Arikunto[9]. The data is all the facts and figures that can be used as material to compile the information, while the information is the result of data processing that is used for a purpose".

3. Result And Discussion

Results

Based on the results of game CLS Knight Surabaya (1st rank) versus Pacific Caesar Surabaya (12th rank).

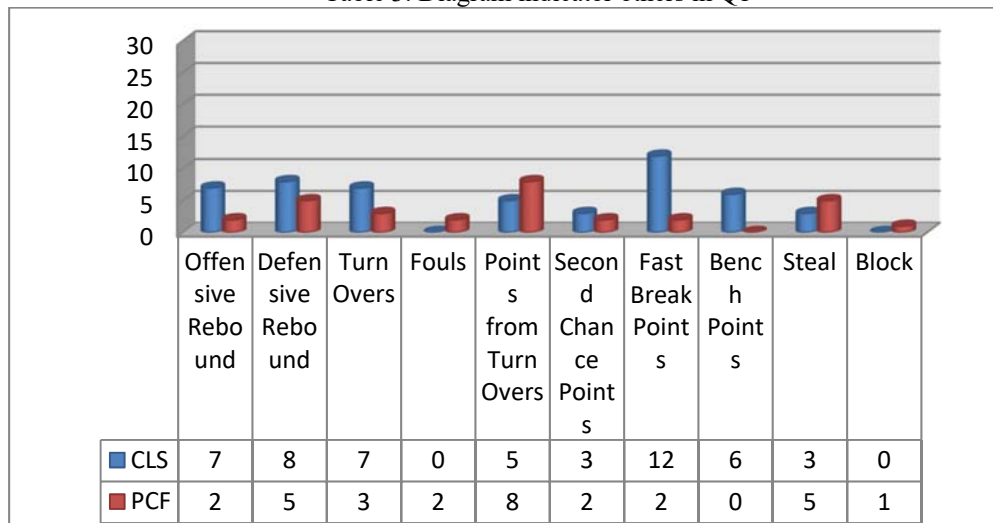
Game 1: Quarter 1



Picture 1. Diagram indicators shot

From this diagram in picture 1 we can know: (1) CLS field goal are 33% and PCF field goal are 41 %, (2) CLS 2 points are 57% and PCF 2 points are 50%, (3) CLS 3 points are 18% and PCF 3 points are 0%, and (4) CLS free throws are 100% and PCF free throws are 0%.

Table 3. Diagram indicator others in Q1



From table 3: (1) CLS rebounds are 15 (7 offensive rebounds and 8 defensive rebounds) and PCF rebounds are 7 (2 offensive rebounds and 5 defensive rebounds), (2) CLS turn over are 7 and PCF turn over are 3, (3) CLS fouls are 0 and PCF fouls are 2, (4) CLS points from turn over are 5 and PCF points from turn over are 8, (5) CLS fast break points are 12 and PCF fast break points are 2, (6) CLS bench points are 6 and PCF bench points are 0, (7) CLS steal/intercepts are 3 and PCF steal/intercepts are 5, and the last (8) CLS block shots are 0 and PCF block shots are 1.

Based on the research results obtained and carried out the study it can be concluded that the ability of basketball teams in IBL Series Yogyakarta 2016 have the following capabilities:

1. Shooting ability

Shooting ability includes field goals, 2 points shot, 3 point shot. Field goal is any shot that is attempted by team. Field goal is ability team for score from field. 2 points is a player's or team ability to score two point and 3 points is a player's or team ability to score three points for a shot. Free throws are unopposed attempts to score points from a restricted area on the court and are generally awarded after a foul on the shooter by the opposing team. Each successful free throw is worth one point.

The three abilities are basically the shooting ability of the each player. Based on the data analysis, the shooting ability of IBL Series Yogyakarta 2016 basketball team was 0.51 or 51 in percentage, in category less. Ideally shooting ability team should be above 80%.

2. Ball handling ability

Ball handling ability is a players' ability in passing, receiving, and dribbling the ball. It also

includes assist, turnover, and offensive rebound. In basketball an assist is a player's ability pass a ball to a teammate that directly leads to a score by field goal. Turnover is when a player loses possession to the opposing team including out of bound, travelling, double dribble, travelling. This can happen if a player has lower ability. Offensive rebound is the act of successfully gaining possession of the basketball after a missed field goal or free throw It is a routine part in the game, as all possessions change after a shot is successfully made.

The results of the data analysis showed that the assisting ability of the IBL Series Yogyakarta 2016 basketball team was as many as 12.5 assist per game, the turnover or error of the team was as many as 24.75 per game, and the offensive rebound ability was as many as 12.34 offensive rebound per game.

3. Defense ability

Defense ability is a basketball player's ability to defend the team. It includes steals and intercept defensive rebound, block shoots, and fouls. Steals and intercept is the ability to take ball possession over the opposing team. Defensive rebound is a player's ability to possess the ball after a missed shot in defending situation. Blocked shoots depends on the defensive player's ability to legally deflect a field goal attempt from an offensive player. Meanwhile, foul is a break of the rules that concerns illegal personal contact with an opponent.

Based on the data analysis, it can be IBL Series Yogyakarta basketball team's steals and intercept were 15.9 steals/intercept per game, the defensive rebounds were 15.6 rebounds per game, blocked shoots were 6.3 blocks per game, and fouls were 20.14 fouls per game.

4. Discussion

Statistic analyze from game is important for a team in training, pra-competition, and competition. Which statistic analysis a coach can look deeply in detail about progress in team and individual development. Coach also can look about lack in team or individual which must be fixed in training or competition season.

Almost all of the best sports writers have the ability to play with statistics. The development of sports science makes positioning statistics higher. The role of Physiology and science of coaching are indeed important in the achievement. Miami Heat, the NBA back to back champion in 2012 and 2013. The head coach of the Heat is not a great basketball in his day. However, he was a statistician at once video man. Erik Spoelstra, Heat coach who bleeds the Philippines from the mother, years into video man. As the video interpreter, Spoelstra have a lot of time studying the performance of players and opponents. He was also expert of analyzing because during college he played as point guard.

So when Pat Riley decided Spoelstra as coach replacement, Spoelstra has already had a deadly weapon that is not owned by LeBron James, Dwyane Wade, and Chris Bosh, i.e. the ability to analyze statistics. The Indiana Pacers also have a head coach who whiz read data: Frank Vogel. Don't be surprised if Vogel also became coach of the fastest rising in the 2012/13 season of the NBA with the Indiana Pacers brought to the top of the Eastern finals competition. How the use of statistics in Indonesia? In basketball a branch of the statistics already used but still in very small scale. Only a few are using statistical data to prepare for practice or games Miranda Devayani[3].

5. Conclusion And Sugestion

After analyzing the data using FIBA Livestat analysis, the researcher concludes that: (1) The IBL Series Yogyakarta 2016 basketball team need better ball handling practices as their turnovers were 24.75 per game. As suggested by Krause, Meyer, and Meyer [2], ball handling encompass all offensive moves with basketball (passing, catching, dribbling, shooting, individual moves, and rebounding); (2) The IBL Series Yogyakarta 2016 basketball team need better shooting practices to increase the percentage of field goal and free throws. Moreover, Krause, Meyer, and Meyer [2] mention that field goal and free throw scoring percentages are the most important statistical factor related to winning; and (3) The IBL Series Yogyakarta 2016 basketball team need better

basic defense, most importantly for stance. This due to their 20.14 fouls per game. Based on Krause, Meyer, and Meyer [2], defensive players must maintain defensive quick stance at all times.

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EVALUATION OF THE IMPLEMENTATION OF CURRICULUM 2013 VOCATIONAL HIGH SCHOOL IN INDONESIA

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Abstract

Indonesian government imposed Curriculum 2013 in the national education system since year 2013 in order to improve the quality of education. Curriculum 2013 is different from the previous curriculum, especially on approach to learning and assessment techniques used. In the academic year 2015/2016, the Directorate of Vocational High School of the Ministry of Education and Culture of Republic of Indonesia has provide assistance program to assist schools in implementing Curriculum 2013. The assistance program needs to be monitored and evaluated in order to know its effectiveness and its results can used to formulate education policy related to improvement of implementation Curriculum 2013. The purpose of this study is to describe (1) the readiness of educators in implementing Curriculum 2013, (2) realization of assistance program in implementation Curriculum 2013, (3) the impact of assistance in implementation Curriculum 2013, and 4) obstacles encountered by educators in implementing Curriculum 2013. This research is a descriptive exploratory evaluation with quantitative and qualitative approaches. This study was conducted in 104 districts/cities and selected 208 schools that have implemented Curriculum 2013. Data were collected using a questionnaire for teachers, principals, and students. Data were analyzed quantitatively and qualitatively. Decision criteria determined by using the ideal criteria which categorize less, fair, good, and excellent. The results showed that (1) the readiness of educators in implementing Curriculum 2013 is in good category, 2) the assistance program in implementation Curriculum 2013 is in good category, 3) assistance program has a positive impact on teachers and principals in implementing Curriculum 2013, and 4) some obstacles encountered by educators namely teachers feel less ready to implement Curriculum 2013 due to ineffective training and socialization program; teachers are constrained on implementation of teaching and learning, difficulties in assessment and writing the student report, obstacles related to textbooks, facilities and infrastructure for use in the implementation Curriculum 2013.

Keywords: curriculum 2013, vocational high school, monitoring and evaluation

1. Introduction

Education plays an important role in shaping quality of human resources. The existence of qualified human resources is expected to improve the quality of life and global competitiveness. In order to achieve it, education must be supported by a curriculum that is able to equip students with a variety of thinking skills and good character. Thus the curriculum has a vital role in determining the quality of human resources where it is a reflection of the quality of education of a nation.

The curriculum can be interpreted as the composition of materials or subjects that will be used as a reference in educational activities [1][2]. In Indonesia the meaning of the curriculum refers to Law of Republic of Indonesia Number 20 Year 2003 [3]. According to Law of Republic Indonesia Number 20 of 2003 [3], the curriculum is a set of plans and arrangements regarding the objectives, content and learning materials as well as the means used

to guide the implementation of learning activities to achieve specific educational objectives. Based on those opinions, it can be concluded that the curriculum is a set lesson plan includes several components that are used to guide the implementation of learning to achieve educational success. The curriculum is not just learning the subjects, but rather developing the mind, adding insight, and developing knowledge [4]. Thus a good curriculum demands a balance between the development of cognitive, affective, and psycho-motor aspects.

In order to realize the curriculum that is able to develop cognitive, affective (religion and social) and psychomotor aspects, the Indonesian government implements Curriculum 2013. Another reason for the implementation of this curriculum is because still low of students' HOTS in Indonesia [5]. Indonesian government imposed Curriculum 2013 in the national education system since 2013 in order to improve the quality of education. Curriculum 2013 is different from the previous curriculum,

especially on approach to teaching and learning and assessment techniques used. This curriculum emphasizes learning in the scientific and authentic assessment approach in the assessment of learning outcomes competences include spiritual, social, knowledge, and techniques used varied assessment and reporting description model. Curriculum 2013 is applied to all levels of education ranging from elementary school (SD/MI), junior high school (SMP/MTs), senior high school (SMA/MA), and vocational high school (SMK). Given Curriculum 2013 is a new curriculum applied in the education system in Indonesia then it is necessary to do monitoring and evaluation.

Evaluation is the process of delineating, obtaining, reporting, applying descriptive and providing useful information to guide decision making [6][7]. The decisions taken serve as performance assessment indicators or performance assessments at each evaluation stage in three categories namely low, medium and high [8]. In relation to specific programs or policies, the evaluation process is known as program evaluation. Program evaluation is to gather information about a program or some aspect of a program to make important decisions about the program [9]. Thus through the program evaluation is expected to know the extent of implementation of program or policy and obstacles encountered in the implementation.

Curriculum 2013 as one of the government's policy in the field of education needs to be monitored and evaluated. It aims to find out the extent of implementation of Curriculum 2013 and its obstacles. Related to the implementation of Curriculum 2013 research results indicate that training and socialization has not been able to foster a good and comprehensive understanding about Curriculum 2013 [10]. The obstacles encountered by senior and vocational high school teachers in implementing Curriculum 2013 namely difficulties in preparing teaching and learning, time allocation management; difficulties in preparing instructional learning kits; and difficulties in preparing assessment instruments and scoring rubrics, especially on attitude assessment [10][11]. Based on these findings, it is necessary to keep monitoring related to the implementation of Curriculum 2013 at all levels of education, especially in vocational high school level.

Vocational high school (SMK) is a different school with senior high school (SMA) because it has special characteristics. Assistance programs are needed to help teachers and principals understand Curriculum 2013 and its implementation. In order to assist teachers and

principals of vocational high school in implementation Curriculum 2013, the Directorate of Vocational High School Founding of the Ministry of Education and Culture of the Republic of Indonesia gives assistance program through its pioneering funds and own school funds. This assistance program is conducted on the first semester of academic year 2015/2016. To know the effectiveness of assistance programs related to implementation of Curriculum 2013, monitoring and evaluation activities are required.

Monitoring and evaluation program starting from the planning stage and continued with the implementation stage. Monitoring and evaluation program include monitoring activities in the field when activities are on going to ensure the suitability of the process and outcomes according to plan or not. Of monitoring activities conducted found the findings or deviations in fields to be the result of monitoring and evaluation. Monitoring results into the material for the next process. Furthermore, monitoring and evaluation officers also identified deviations occurred in the field based on the results of monitoring conducted. From existing findings and deviations then analyzed the suitability of the research findings with the theoretical basis and the applicable legal basis.

Based on the background, it is necessary to monitor and evaluate the implementation of Curriculum 2013 in vocational high school and its results can be utilized to develop educational policies related to the implementation of Curriculum 2013 and efforts to improve it. Related to this, the purpose of this research is to describe (1) the readiness of educators in implementing the Curriculum 2013, (2) realization of the implementation assistance of Curriculum 2013, (3) the effectiveness of assistance in implementation Curriculum 2013, and 4) obstacles encountered by educators in implementing Curriculum 2013.

2. Method

This type of research is categorized as research evaluation, to be able to provide information such as the level of success of the mentoring Curriculum 2013, making it useful for solving problems faced and to consider whether the assistance program should be continued, discontinued, or repaired.

This research is a descriptive exploratory evaluation with quantitative and qualitative approaches. This study was conducted in 104 districts/cities and selected 208 schools that have

been implemented Curriculum 2013 as sample, both from the pioneering work or self categories.

Data were collected using a questionnaire for teachers, principals, and students. Data were analyzed quantitatively and qualitatively. Decision criteria determined by using the ideal criteria, which categorize the preparation, implementation, and impact of assistance program in Curriculum 2013 namely less, fair, good, and excellent.

3. Results

There are some informations obtained from the data activities of monitoring and evaluation of Implementation of Curriculum 2013 vocational high school in 2015. One of the many such data is data relating to the preparation of teacher assistance. Before implementation assistance, advance the capabilities and knowledge of teachers with regard to Curriculum 2013 is measured. The measurement is carried out against several components, namely the teacher's knowledge of the Regulation of the Minister of Education and Culture related to Curriculum 2013, the understanding of teachers to the formulation of competence of the student in Curriculum 2013, the teachers' understanding of the level of thinking in the learning process, understanding the teacher to model and learning materials in Curriculum 2013, as well as teachers' understanding of the assessment and how to create lesson plans. The results of teacher knowledge evaluation of the Curriculum 2013 are given in Figure 1.

The percentage shown on the pie chart (Figure 1) is the number of teachers based on their level of preparedness. The results provide an overview that most teachers are already ready to implement the 2013 curriculum. This is demonstrated by 79% of teachers have understood the curriculum 2013 well. Meanwhile, only 20% of teachers have enough readiness, and the other 1% have less readiness. Furthermore, the analysis shows that the teacher's knowledge of the curriculum 2013 has a mean of 6.6. This results indicate that the teacher's knowledge of the Curriculum 2013 included in good categories.

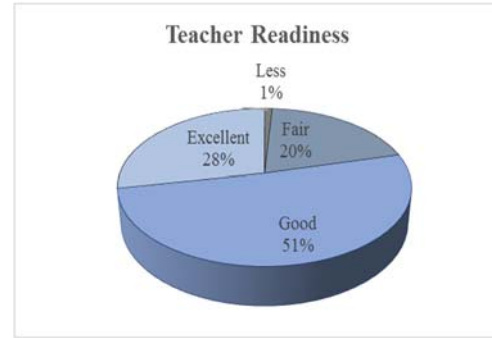


Figure 1. Percentage of Teachers Based on Level of Readiness

Implementation assistance activities of Curriculum 2013 implementation aimed to the supervisors, principals and teachers. With their assistance activities for principals are expected to evaluate and provide solutions for them in solving problems at school in the implementation of Curriculum 2013. Evaluation of the implementation of assistance of curriculum 2013 implementation addressed to the principal is given in Figure 2.



Figure 2. Implementation of Assistance Based on Quality

Implementation of assistance to principals already well underway based on the results of data analysis in the field that most of the implementation of assistance included in good categories.

Assistance implemented in order to maximize the implementation of Curriculum 2013 in schools carried out of this curriculum. Based on the results analysis obtained the average implementation assistance were 59.13. The results of the comparison of mean with measurement criteria indicate that the implementation of the assistance included in good category.

Learning and assessment process is something that has a very striking change compared to the previous curriculum. The process of learning going on with the scientific basis using 5M sequence (observe, ask, try, associate and communicate). The data shows that the post-mentoring teachers have a better insight

about good learning process according to the curriculum 2013.

The impact of the post-implementation of Curriculum 2013 can be identified from three aspects: the impact on students (interesting and fun learning process, students are more active, motivation and enthusiasm for learning increases, it becomes more skilled, innovative and productive, reasoning power better, increasing willingness to read and the formation of learners character). Referring to the details of aspects which are summarized into these indicators show that the curriculum 2013 gives a positive impact on learners. The learning process becomes more conducive and friendly so that every learner has a good opportunity to maximize their potential.

The second is the impact on teachers. Curriculum 2013 puts the teacher as one of important aspect in the success of the educational process. Various formulas included in Curriculum 2013 requires teachers to become more personal detail to observe the problem, planning appropriate learning curriculum, assessing in detail, and creative. The condition is a positive impact on teachers. Thus, the implementation of Curriculum 2013 is not just about the growing competence of learners, but also teachers as educators has developed a good competence.

The third is the impact on the Principal. Principal has a central role in a school managerial. Various measures taken can determined quality curriculum implementation process. Various efforts have been made well by the principal so that the macro implementation of Curriculum 2013 has given a very good impact on the learning process in schools.

In addition to these findings, from monitoring and evaluation can be found various obstacles encountered by educators in implement Curriculum 2013. First, some teachers feel that they are not ready to implement Curriculum 2013 because of the ineffectiveness of training and socialization of Curriculum 2013 (training is not evenly distributed, trainer is not in accordance with teacher's field/subject, training time has not been effective, interpretation of Curriculum 2013 varied, lack of the continuous training and lack of the productive teacher training). Second, obstacles in carrying out learning activities in accordance with lesson plan, the burden of teaching is too high, i.e. 50 hours lesson/week, the volume of duties and homework are quite a lot, and teachers difficult to condition students to ask. Third, in assessment, teachers have difficulty compiling assessment points, no uniform assessment rubric, difficulty describing

learning outcomes, difficulty determining effective attitude assessment, and the complexity of reporting student outcomes. Fourth, learning resources include textbooks have not spread evenly, the material in the textbooks is relatively complicated, there are misprints and misconceptions in textbooks, lack of quality printed textbooks, and library functions that have not been maximized. Fifth, facilities and infrastructure include inadequate practice facilities and limited information technology facilities.

4. Discussion

The results of this study revealed that most of vocational high school teachers have good readiness in implementing Curriculum 2013. In addition, the implementation of assistances was considered well implemented, thus giving positive impact for students, teachers, and principals. Nevertheless, there are some obstacles encountered by teacher in implementing Curriculum 2013. First, the lack of readiness of some teachers to plan the lessons that lead to difficulties in the management of learning time in learning process. Second, the limitation of learning resources and the limitation of infrastructure have resulted in difficulties of teachers to implementing the learning process that appropriate with Curriculum 2013. Third, teachers have difficulties in planning and implementing the assessment. Fourth, there are teachers who have difficulty writing school report cards. The results obtained from this study is one of the evidence that teachers need to make changes in learning to fit the demands of the curriculum [12]. In addition, the obstacles encountered by teachers were in accordance to previous researches which reveal that teachers have difficulties in planning and implementing learning [10], as well as carrying out assessments based on Curriculum 2012 [11].

The obstacles in implementation of Curriculum 2013 are due to uneven and unsustainable of assistance program and limited duration of training time resulting various interpretations of implementation of Curriculum 2013. Various interpretations indicate that some of teachers have lack of understanding on the implementation of Curriculum 2013. This is in accordance to the results of research which revealed that obstacles to the successful implementation of Curriculum 2013 were found to root in the teachers' fixed mindset and within the implementation [13]. Lack of teacher understanding includes pedagogical practice promoted by the new curriculum [14]. It means

that implementation of Curriculum 2013 is still done partially. There are some teachers who have not done the lesson in accordance to Curriculum 2013. Some teachers in schools who never attended the curriculum training still encounter a number of problems in implementation Curriculum 2013. Therefore, training and assistance of implementation of Curriculum 2013 still needed to continued and maximized so that all teachers have good understanding about the implementation of Curriculum 2013.

5. Conclusion and Recommendation

Based on the results and discussion obtained the following conclusions: (1) the readiness of educators in implementing Curriculum 2013 is in good category, (2) the assistance program in implementation Curriculum 2013 is in good category, (3) assistance program has a positive impact on teachers and principals in implementing Curriculum 2013, and (4) some obstacles encountered by educators namely teachers feel less ready to implement Curriculum 2013 due to ineffective training and socialization program; teachers are constrained on implementation of teaching and learning, difficulties in assessment and writing the student report, obstacles related to textbooks, facilities and infrastructure for use in the implementation Curriculum 2013.

The recommendations that can be given based on the research results are: (1) the assistance program needs to be continued with some improvements and more intensified starting from trainer competences and the way of assistance, as well as this program implemented equally, trainer who provides training should come from the same field; (2) A detailed guideline for implement Curriculum 2013 should be developed, starting from the preparation of the lesson plan, the implementation of the learning process, and the implementation of assessment; (3) Should be developed support software that is easy to operate for reporting student outcomes in Curriculum 2013; (4) Should supervisor duties as partners in the implementation of Curriculum 2013 can be improved; (5) There should be good coordination among subject teachers in assigning tasks to students, so that students are not overloaded with the tasks assigned by the teacher.

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COMMUNITY DEVELOPMENT IN SOCIETY AROUND TOURISM DESTINATION AT CILACAP

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ABSTRACT

Indonesia is one of countries with the greatest tourism destination. Cilacap is one of cities in Indonesia. Cilacap has abundant natural resources that can be managed to improve the welfare of society. The problem research about the empowerment potential in activities through community to meet their needs, so the principle can help community to help themselves. This research is intended to provide skills for the people that can contribute to increase family income and awareness importance of management of tourism in the region. Data collection consisted of site observation, interview and study documents. Analytical technique used in this research is the analysis of interactive. The research results about four elements of community development proposed by Dunham in Government of Cilacap is not applied yet. The Government does not involve the community in early stages of program planning. This program still use patterns top-down intervention programs who do not uphold the aspirations and potential of the community. First element is related to the third element of the proposed Dunham. Supported by the Government, the public power that is generated as the capital to expect the establishment of autonomy in order to meet the needs of the community, improve the quality of life in tourism management.

Keywords: *tourism, community based, community development*

1. Introduction

Indonesia has a diversity of tourism, from natural, artificial tourism and culture. Tourism destinations need to be developed because it has the potential of nature, culture and wisdom of local communities. Development of destinations precisely can increase income, so it can prosper communities living around tourism area. Development of tourism destinations in a way of community development around the tourism sector. Community Development is a model approach to development as an attempt to involve the active role of the community and its existing local resources such as tourism resources. Community Development program has three main characters, namely: community-based, local resource based and sustainable. According to Achda in Elvinaro (2011:54) that the purpose of the implementation of community development is to: 1. Enhance the ability of communities to find alternative economic in long-term. 2. Improve the quality of people's living in economic, social and culture aspects. 3. Strengthened local institutional that are capable to heading growth of local initiatives. 4.

Realizing independence of society in politic, economy and culture aspects.

In this autonomous region, implementation of the principle of decentralization emphasize the authority of local governments to manage their own regions with a variety of policies and programs by itself. The principle of decentralization is not just local government's responsibility toward the Central Government but also the local government accountability towards society in order to create a prosperous society. Realizing prosperous society is not as easy as that, also needed participation of community. Active participation of community manage their territory aiming to create sense of belonging toward it and responsible for the implementation of policies in their territory.

The implementation of Government's tourism destinations, Cilacap involve communities living around tourist attractions. Community involvement in the development of tourism destinations urgently needed to promote tourism destinations as well as to improve the livelihood of communities around the tourist areas. Cilacap Government policies make the Group aware of tours (Pokdarwis) in accordance with regulation of the Minister of Culture and

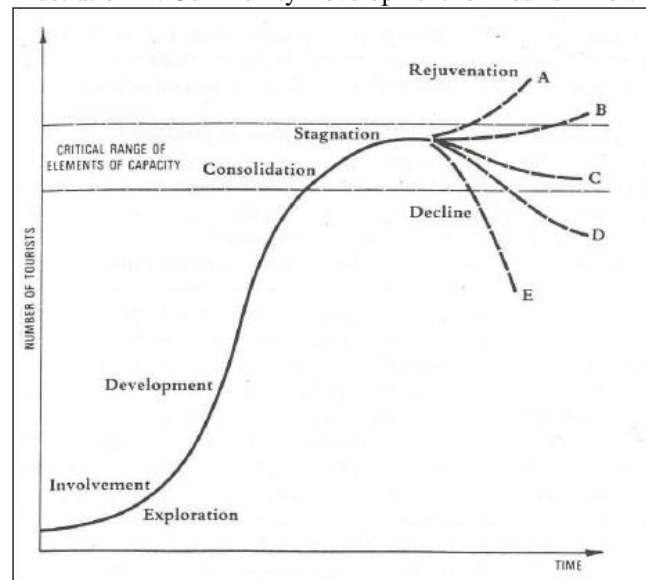
Tourism No. PM. UM 04/001/MKP/08 about Conscious Tourism. Conyers (1992:156) who argued that public participation in the development can be accommodated in several ways, one of them is by using a community development approach, this approach focus on the concept of self-help in local resources's application with all activities well-managed will help whole community to survive.

The conception of community development as a method of allowing people can improve the quality of life and was able to enlarge the influence on processes that affect their lives (AMA in Suharto, 2005:38). Community building Empowering People: Strategic Study of the development of social welfare and social work. Bandung: Rafika Aditama. Arthur Durham (1958), an expert on Community Development to formulate a definition of Community Development as follows: "Organized effort to improve the conditions of community life, and the capacity for community integration and self direction. Community development seeks to work primarily through the enlistment and organizations of self help and corporative effort and the part of the residents of the community, but usually with technical assistance from government or voluntary organization". (Arthur Dunham 1958:3). Community development as an organized effort which aims to improve the living conditions of the community and empower the community to be able to unite and steer by self. Community development work primarily through the increase of the non-governmental organizations and the joint efforts of individuals within the community, but usually with technical assistance from either the Government or voluntary organisations. Dunham argued 4 elements of Community development as follows. 1. A plan program with a focus on the total needs of the village community; 2. Technical assistance; 3. Integrating various specialties for the help of the community; 4. A major emphasis upon self -help and participation by the residents of the community. From the definition of community development in the above conclusions can be drawn: 1. First, community development is a process of sustainable development. It means, activities implemented

are organized and implemented stage by stage, starting from the beginning to the stage on the stage of the follow-up and evaluation of activities – followup activity and evaluation. 2. Second, the community development aims to fix and improve conditions of economic, social, and cultural communities in order to achieve a better life quality. 3. Third, community development focused the activities through empowerment of community potentials to meet their needs, so the principle of "to help the community to help themselves" can be reached. 4. Fourth, community development gives emphasis on the principle of self-reliance. It means, active participation of group action in solving problems and meeting the needs are done based on community potentials. Community development program focused on empowering local communities and partnership program involving all stakeholders.

Arthur Dunham in his book entitled "Outlook for Community Development Review" quoted from the book Elvinaro Wxfz (2011:54) that development community can be classified into: *a. Development for Community*, is an approach that puts society on a position "objects development". Because of initiative, planning, and execution of the activities performed by actors from the outside. This approach is suitable to be applied to the community awareness and culture is still dominated. However, based on research in the field, approaches in this way often creates a dependency of communities against outsiders. *b. Development with Community*, is the approach that carried out in the form of collaboration between actors and local community. The decision which taken was a joint decision, and resources used came from both sides. This form of community development is the most popular and applied by various parties widely. Rationale for this approach is potential that owned by local community and which controlled by actors outside need to be synergized. *c. Development of Community*, is an approach that emplace community as agents of development by themselves. All of initiative, planning, and execution is conducted by the community. They became owner of development process and outsider actors as a support system.

Community Development Model for Tourism Towns
Illustration 1 : Community Development for Tourism Towns



Source: Butler (1980) in Bruce (2005, 16-17)

During the *involvement* stage, the number of visitors increases and is accompanied by more regularity. Some local residents begin to become involved by providing facilities primarily or exclusively for visitors (Butler in Bruce (2005, 16-17)). In the *development* stage, a well-defined tourist market area has developed, accompanied with heavy advertising in tourist-generating areas. As this stage progresses, local involvement and control of development will decline rapidly. Some local facilities will disappear being replaced with larger, modern facilities created by external organizations, particularly for visitor accommodation. During peak periods, the number of tourists may equal or exceed the local population. Imported labour may be utilized and auxiliary facilities for the tourist industry, such as laundry facilities, emerge. During the *consolidation* stage, the rate of increase in numbers of tourists declines, although the numbers will still increase. The total visitor numbers exceed the number of permanent residents and a major part of the area's economy will be connected with tourism. When the peak number of visitors is reached, the community has entered the *stagnation* stage. Capacity levels have been reached or exceeded, and are accompanied with environmental, social, and economic problems. Cottage resorts in Ontario have displayed these characteristics. During the *decline* stage, the area is not able to compete with newer attractions and experience a declining market. Property turnover is high and tourist facilities may be replaced by non-tourism related

structures as the area moves out of tourism. Hotels may become condominiums or retirement homes, and the attraction of tourism areas make them equally attractive for permanent settlement, particularly for the elderly. However, rejuvenation may develop, although it is rare for this stage to develop without a complete change in the attractions on which tourism is based. For example, the village of Aviemore, Scotland was rejuvenated by developing a winter sports market, thus allowing the area to experience year-round tourism. While this model offers a detailed model tailored to the unique developments of a tourism town, it does not describe the characteristics of tourism town during a stable or plateau period.

It is important to note that, depending upon the tourism activities, tourism communities can exhibit a range of characteristics during its development. For example, these places may either have a young-oriented population or an older oriented population (Gill 2000). As these communities develop, they tend to have a young, mobile workforce. It may also be characterized by female, part-time employment (Hall and Page 1999; Kessab et al. 1995).

In general, these community development models provide examples of measures which describe what is taking place in communities with varying economic activities. These measures, though, are not predictive in nature. They simply describe trends that are taking place.

Development of tourism destinations in Indonesia more facilitated by the state, while

society tends to be passive. As a result, local capacity in responding to innovation sponsored by the state through the construction of a tourist village is still facing a number of crucial issues (Damanik, 2009:131-133). "The Crucial Issues In The Management Of Tourist Villages Nowadays". *Journal of tourism Indonesia* 5 (3): 127-137. The involvement of citizens in the development of village tourism is crucial, potential of the region can be known and understood because of them. In addition, this involvement is very important to get support and ensure that things will be obtained with regard to the needs and benefit local people. Finally, the role of citizens in the development of tourism is very urgent to be developed and deployed as an integrated part.

Community participation not only encourage the onset of this process of strengthening the capacity of local communities, but also can act as a mechanism to improve the empowerment of citizens to engage in development together. In the context of tourism development, it seems important to keep society participation is encouraged in order to distribute the benefits of tourism activities that took place to the public directly. The spirit of decentralization and the granting of full authority for citizens to manage tourism in their territory is a requirement for realizing a community-based tourism. The description shows community participation is necessary, because they are who carry out the program ultimately.

2. Methodology

This research use descriptive-qualitative approach. Research on the location of capture is in the District of Cilacap, Central Java. Research analysis unit is a unit of Work Device area (SKPD) Cilacap Regency and conscious community group tours (POKDARWIS). Sampling techniques using a purposive sampling. In purposive sampling, researchers chose informants considered knowing in implementing community development as tourism and Cultural District Cilacap and knowing in depth permasalahannya as well as involved in it as a conscious community group tours (POKDARWIS).

Data collecting with interview, observation and documentation by researchers. Data analysis using qualitative descriptive analysis of interactive analysis models, which is data reduction, data presentation and ended with a conclusion. To ensure data validity in this research used the source of data or triangular. Researchers compare information from

informants in various position by depth interview technique, so all of that information could be compared each other. In addition, researchers digging information from sources of documents and archives related to community development. Researchers will compare the interview results with main document that expected to get data validity.

3. Result And Discussion

Cilacap Regency Government and Community cooperation in developing tourism destinations at Cilacap Regency. In this study, researchers take location research at Widarapayung beach and the Cemara Sewu Jetis beach. This study describes Community Development in Cilacap tourism destination development using theory of Dunham. The stages as follows:

A plan program with a focus on the total needs of the village community

In the development of tourism destinations requires planning so that it can become one of tourist objects become memories for travelers (Permanasari, 2010:64). Permanasari, Ika. 2010. "poverty alleviation through community empowerment in tourism village". *Indonesia Tourism journal* 5 (1): 57-69. Society as a subject or perpetrator community development must be actively involved in each stage, ranging from planning. In the planning stages, tourism and Cultural District Cilacap form groups aware of tourism which is the community around tourist attractions. The beginning of formation of a group tour is aware of the role of the Government as well as from Central Java province with a system of race-conscious tour groups. Starting from there, the emergence of a group of communities that care or feel to have the term with the existing tourism potential in their respective regions. After they feel concerned and have led to some sort of community care, they are United in the village rembug in the forum to discuss government programs namely programs aware of tourism. The methods used by focus group discussion (FGD). Discussion held the Government together with the elements of the community include a tour manager, caretaker of the village representatives and community leaders. The Forum meeting is formally run guided facilitators from the Government. FGD this beginning with the goal and purpose of the meeting presented the facilitator. The target of the meeting is obtained along with awareness (collectives awariness) of potential development

opportunities along with possible destinations can run relic. In the forum formed a group conscious community tours with the term pokdarwis, be a legal organization. The community was taken by the Government to establish community development, this is a form of initiation of relevant agencies in the field of tourism area (Provincial Tourism Office/Government Tourism Office/City) on potential locations both in the preparedness aspect of tourism as well as the readiness of the people. In this case, the public has not been included in the planning stages.

Technical assistance

In the development of tourism destinations as a tourist attraction needs to be understood from the beginning if the local community is not a passive object but rather an active subject. A rural environment can be viewed as an object as well as a tourist object. As an object, it means that the village is the destination of tourism activity, while as the subject is the organizer, what is produced by the village will be enjoyed by the community directly and the active role of the community will determine its continuity (Soebagyo, 1991 in Raharjana, 2005).

Local government and provincial government APBD and APBN funds to build the accessibility of tourist destinations. Technical assistance provided to be headed to the Beautiful beach of Widarapayung attractions in the form of signs of objects either on specific points, making the streets of trails and haul roads heading to destinations for tourism. Meanwhile, for technical assistance that was in the sights of the Beautiful beach of Widarapayung in the form of gate counters, a prayer hall, a stage attraction, gazebo and viewing. All facilities in the beautiful Widarapayung Beach tourist attraction is the technical assistance from the Government.

Integrating various specialties for the help of the community

The next stage, a variety of potential resources contained on the beautiful beaches of Widarapayung. Before looking at the potential assignment, will be discussed regarding classification problems in Widarapayung from perspective of POKDARWIS, as follows:

Table. 1

Classification Problems in Widarapayung from POKDARWIS Perspective

	Problem
Acessibility	The absence of special tourist signs with brown

	background and white writing.
Transportation	There is no public vehicle to reach tourist attractions.
Human Resources	Limited opportunities for tourism training.
Tourism Supporting Facilities	Traditional performances ae rarely held.

Sources: The Primary Data

Viewed from above, the problem can be minimized by the existence of a potential classification will include the components of the physical, biotic and social culture, as follows:

Table. 2

Classification of Potential development opportunities and Widarapayung beach.

Classification Potential	Potential Attraction	Development Opportunities
Physical	Waves	Surfing
	Landscape scenery	Outbond Beach, tour guide, trekking, swimming pool, culinary
Biotech	Fish Processing	Make fish crackers, make salted fish
Socio- and culture	Cultural arts	Enable cultural event, Enable a tours packing of cultural performance, established a traditional dance studio.

Sources: The Primary Data

Based on the above data, implementation of existing potential in attractions can open opportunities for citizens, which is POKDARWIS, into tourism services. It makes additional income aside from catching fish in the sea. It means, inclusion of the development of tourism destinations is not replace main economic activity of citizens, but provide additional alternatives for households of fishermen from tourism services. For travelers, as long as they are not only enjoying charm of

the beach but also can facilitated with great tourism services provided by POKDARWIS.

A major emphasis upon self -help and participation by the residents of the community.

First step to see potential has been made independently by POKDARWIS in widarapayung is provide insight POKDARWIS that in the development of tourism destinations is not solely the responsibility of the community. It also through cooperation and partnership that could be developed would encourage the acceleration of the implementation of the development of tourism destinations. POKDARWIS serves as a partner of Government and become facilitator for implementing and monitoring of the activity of tourism which takes place in the beautiful Widarapayung beach. POKDARWIS in Widarapayung have tried open various businesses to support tourism activity, such as selling food, arranging fish market, processing salted fish, processing fish cracker, providing a homestay and tour service business examples horse excursions, parking, bicycle storage, seating or gazebo rental. Location of tourism object also began to expand, which originally just about few hundred fifty meters, now 300 meters. In addition, there are efforts from the community. There was only one pool, but now there is one more in about 100 meters from it.

Butler (1980) in Bruce (2005, 16-17) Community Development for Tourism Towns

A four stage development model for tourism towns:

Exploration Stage

Indirect exploration is provided with leaflets, CD of tourism profile, information, booklets, brochures, radio, counseling from school to school, transportation information heading to Cilacap and vice versa. Information can be accessed through the website www.pariwisata.cilacapkab.go.id, Tourism Information Center (TIC) as well as promotions conducted outside such exhibitions.

Involvement Stage

The involvement of POKDARWIS by providing a variety of visitor needs tourism. Concerned with the attractiveness of tourism destinations, they will put themselves in accordance with their respective portions. There are communities that make restaurants, a swimming pool on the edge of the beach, the stalls souvenirs, handicrafts place to stay for business, as well as the existence of a sanitary

facility homestay tour guide. Tourist activity on the beautiful beach of Widarapayung includes attractions and accommodation. Activities attractions include traditional ceremony of activities, activities of the arts, sports and others. Temporary accommodation needed to shelter tourists desirous of settling for a while as availability of homestay.

Development Stage

For community development, local governments do a training guide, training training, there's the homestay tourism cluster, there are culinary training, dance training, application training, training SAR charm of sapta and there is also a training to its institutional improvement of pokdarwis itself. In addition, local Governments facilitate a variety of facilities and infrastructure such as the creation of basecamp, a bathroom/sanitary facility, souvenir outlet, making the procurement of equipment and procurement of equipment art tourist facilities.

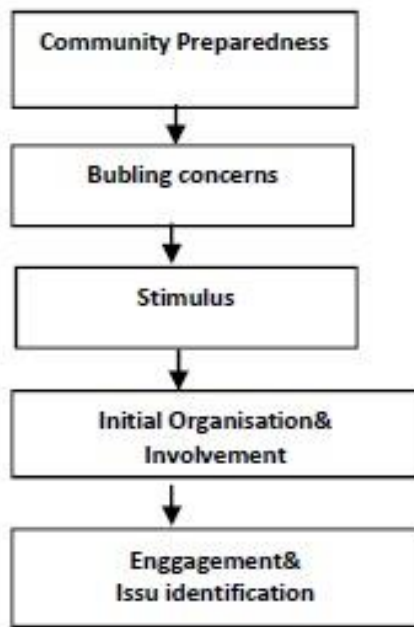
In the development of tourism destinations as tourist attractions should be understood from the beginning when the local community is not a passive object but instead as an active subject. An environmental tourism can be seen as the object of a subject at once. As an object, which means that the destination is the destination of tourism activities, whereas as the subject is as organizers, what generated by tourism will be enjoyed by the people directly and an active role of the community very decisive kelangsungannya (Soebagyo,1991 in Raharjana, 2005). The activities that will be interwoven interaction with society guests as tourists as the host will give rise to experience cultures and attractiveness of tourism will increase.

Consolidation Stage

From pokdarwis there is a system of Musrembang village, meeting once a month to discuss about the development of tourism. In addition, once in 2 months the existence of a consolidation between local governments with each pokdarwis.

Ideal perspective of how a community development should be, researchers compared the process of community development for tourism destinations by using development stages of Community Development for Tourism Towns expressed by Butler (1980) and the community development process expressed Cavaye (nd: 8) as presented:

Illustration 2. : Ideal perspective of how a community development should be.



There are several stages that traveled to prepare knowledge and public participation so as to produce a better community participation. Before the planning stages community already know the information and the benefits of these activities, the participation of the community in providing input is very useful for refining activities offered. Active participation seen in community development do not appear suddenly but rather results from a phase is skipped.

From the results of the research note that the actual phase of awareness raising and public participation is not the result of something that was planned earlier but rather the result of a process of extracting information about the needs, expectations and resources community support against activities that can overcome the permasalahan tourism. See the results of this research, although the stage of increased awareness and participation which do not result from the planned activities but it can overcome the constraints of the current participatory planning i.e. low quality of public participation.

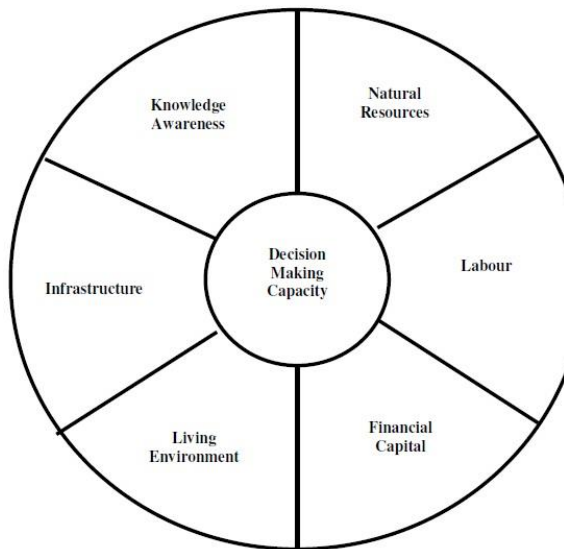
By comparing the two approaches can be composed a model by adopting an approach to community development, where prior to the participatory planning activities conducted in advance stages of awareness raising and public participation. We can see the existence of a phase of increased participation, knowledge and skills of community development it is meant to provide understanding, awareness and skills used in carrying out the planning in accordance with the existing potential. With an increase in the understanding of this tentunnya activity generated in the planning to be more easily

accepted in society. Granting of knowledge and skills about waste management before he did the planning can equip communities to plan activities suitable to be implemented. Study the appeal in this model is not a necessity, but to carry out a study on the general appeal will increase the motivation of people to immediately carry out the planning. This enthusiasm will make participatory planning to life, society has enough knowledge and will provide inputs towards alternatives community development activities.

The main objective of community development is to increase the community's ability to manage change by utilizing existing resources, thus constitute a point weighs not only on the success of running an activity with good but there should be a better value to be achieved such as increased capacity in determining choice, identify the problems and needs and ability to organise the resources. The results and the process of walking side by side, the result of the implementation of the activities of the Foundation of the previous knowledge to plan further activities on an ongoing basis so that what was aspired to achieve self-sustaining community that is concluded.

The process of community development that are implemented through the planning has improved the capacity of Community decision making by leveraging resources owned such as infrastructure, manpower and knowledge. This is indeed to be achieved from the community development process, involving a lot of participation of citizens in a process will enhance the community's ability to address collectively incurred utilize tourism resources independently Cavaye (nd: 2) describes this as described in illustration 2.

illustration 2. Community Development Enhances Community Decision About The Employment of Resources. Cavaye (nd:2)



In illustration 2, Cavaye explained the process of community development is packaged in form of activities involving an intensive community working together will improve and give the ability to decide and coordinating potential that exists within the community as the source of the funds, labor, natural resources, public awareness, infrastructure and environment. It was the main target of community development process that is community building and fostering initiatives.

4. Conclusion

The Government still use a top-down program patterns of intervention, the program created from top to down. It means, the program does not derived from community itself but rather from the Government so that the lack of independence of the community pokdarwis. A planning approach that is used in the planning of this participatory approach is considering activities undertaken will involve communities directly. Participatory planning process was carried out in two stages, the first group is the increased participation and the second stage is the stage of planning itself. The excavation phase information is done with some activities 1. A plan of the program with a focus on the total needs of the village community, 2. Technical assistance, 3. Integrating various specialties for the help of the community, 4. A major emphasis upon self-help and participation by the residents of the community. This step is done through formal meetings with the aim to increase the participation of both the quality as well as

quantity so as participatory planning is able to make more done weight.

Based on influence of participation against the decisions taken, community participation in tourism destination development community development is at a third degree of citizen power more specifically on partnership ladder where citizens have the power in decision making that allows them to negotiate and compromise with the power holders do. The actors involved in this planning process are the community itself, local governments and private sector. Local government acts as a facilitator, namely as the information givers and support activities by providing training and necessary infrastructure needed by citizens. The private sector acts as a donor of activities and provides support to complement local government training.

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VOICES OF ENGLISH TEACHERS AND STUDENTS TOWARD THE EMBEDMENT OF HOTS IN THE DEVELOPMENT OF THE ENGLISH TEXTBOOKS

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Abstract

The development of English textbooks for students of secondary school levels oriented to Higher Order Thinking Skills (HOTSs) enhancement becomes one of the hot issues among scholars on the grounds that it confers students to establish their critical thinking skills which serve as one of the fundamental aspects to enhance students' creativity and self-regulated learning. In reference to the issue, this paper articulates the voices of English language teachers and students toward the embedment of HOTSs in the development of English textbooks designed for the tenth grade students of Vocational High Schools (VHS) in Yogyakarta. To obtain the objective, there were 5 English teachers and 120 students of VHS of Depok 1 voluntarily involved in this study. Two techniques: questionnaire distributions and interviews were administered to get data. Then, the gathered data were analyzed using a descriptive qualitative method. In reference to data analysis, the result reveals that the development of the English textbooks oriented to HOTSs is positively responded by English teachers and students as the English textbook triggers students of VHS to establish their critical thinking skills which lead to enhancing students' creativity and self-regulated learning practices.

Key words: English textbook, higher order thinking skills, creativity, self-regulated learning

1. Introduction

Nowadays the integration of Higher Order Thinking Skills (hereafter HOTSs) in the development of English textbooks for students of secondary school level and university one has become one of the hot issues among scholars. This relies on the theory that the integration of HOTSs in the English textbook development is believed to facilitate second language learners (SLLs) to acquire high level of English language proficiency (Renner, 1996). In support of this, Margana & Widyantoro (2017) highlights that the import of HOTSs in the English textbooks could establish learners to enhance their creativity and self-regulated learning habits on the grounds that SLLs are accustomed to applying the skills of deconstructing and constructing the texts as found in the English textbooks with the employment of their critical and creative thinking skills. Such practices provide SLLs with language learning habits to analyze, evaluate, and construct the English texts both spoken and written forms as manifested in the process of language perception and

production. In addition, some experts believe that critical thinking skills as a part of HOTSs serve as an important competence for SLLs to intensively gain the academic language of target language (Connolly, 2000; Davidson, 1994, 1995, 1998; Davidson & Dunham, 1997; Chamot, 1995; Tarvin & Al-Arishi, 1991). This suggests that the inclusion of HOTSs development in the English textbooks should become the concern of English textbook writers as it could facilitate SLLs to deal with the analysis of use of language critically.

In reference to the importance of the integration of HOTSs in the development of English textbooks, English language teachers of any level of education including English teachers of vocational high school should make some efforts to explicitly integrate the aspects of critical thinking skills in the development of English textbooks or English materials. More specifically, they have to import the aspects of critical thinking skills in developing and selecting any tasks of English materials.

Apart from the English textbook development, English language teachers should

intensely invest HOTSS in a series of English learning practices: lesson planning, implementing, and evaluating. In the lesson planning stage, English language teachers have to integrate the aspects of HOTSS in lesson plan, material development, media, and the like. In the implementation stage, English language teachers have to explicitly integrate the aspects of HOTSS in the proses of English language teaching and learning which can be realized in some activities in the form of deconstructing and constructing texts. In the evaluation stage, English language teachers have to highlight the level of the development of the items which are mostly categorized as C4 (analyzing), C5 (evaluating) and C6 (creating). Those three skills are labelled with the term HOTSS.

The emphasis of HOTSS in the educational contexts is believed to effectively gain the success for English language learning on the parts of SLLs. In line with this statement, some experts strongly claim that the investment of critical thinking skills in English language teaching trigger SLLs to effectively acquire the target language (Chapple & Curtis, 2000; Davidson, 1994, 1995).

In support of the above statement, Kabilan (2000) criticizes that the current popular communicative approach to language teaching, which highlights the employment of language as a communication device, does not really facilitate SLLs to become proficient in the target language. In order to be proficient target language learners, SLLs should be trained to think creatively and critically when they are involved in the process of ELT with the use of English textbooks oriented to HOTSS investment.

With regard to the importance of the investment of HOTSS in educational practices one of which is English textbook development, it is necessary to reveal the voices of English language teachers and SLLs to the investment of HOTSS in the educational practices which focus on the embedment of the critical thinking skills in the development of the English textbooks used for students of VHS who have the same English textbooks as Senior High School (SHS) level. This relies on the fact that a great number of English textbooks used for students of VHS or SHS are not intentionally designed for the development of HOTSS. This study seems to be interesting to do as HOTSS serve as the icon of the English language teaching in the twenty first century as recommended by the Indonesian government.

2. Method

This study is categorized as descriptive qualitative study on the grounds that it documents the voices of English language teachers and students toward the integration of HOTSS in the development of English textbooks. To achieve the objective, this study voluntarily invited 5 English language teachers and 120 students of Vocational High School of Depok 1, Yogyakarta. They were asked to complete a set of questionnaire which accentuated the integration of HOTSS. To support the data collection, this study also employed an interview with 20 students and 5 English language teachers. The collected data were then analyzed with the use of qualitative method.

3. Results

As previously mentioned, this study is primarily aimed at describing the voices of students and English language teachers toward the integration of HOTSS in the development of English textbooks. In reference to the data analysis, both students and English language teachers of Vocational High School of Depok 1 positively perceive the integration of HOTSS in the development of English textbooks. More specifically, 125 students out of 130 students voiced that the integration of HOTSS in the English textbooks could facilitate them to establish their language enhancement as they were trained to apply their critical thinking skills in deconstructing and constructing English texts as found in the English textbooks. Only 5 out of 130 students claimed that they negatively perceived the use of HOTSS in the development of English textbooks as they might find difficulties in answering comprehension questions which are initiated with the use of *why*, and *how*. According to them, the English textbooks which oriented to HOTSS may only consume much time to search out the answers of *why* and *how* as these need further justification and references.

The positive perceptions were also voiced by English language teachers serving as the respondents of this study. All of the respondents agreed that the development of the English textbooks should put an emphasis on HOTSS enhancement. They further said that the employment of HOTSS in the English textbook development likely facilitated their students to critically deconstruct and construct the English texts as performed in the tasks of the English textbooks. Further, they highlighted that the presentation of receptive language skills (listening and reading) so far was oriented to

LOTSs as most of the tasks of the listening and reading focused on the testing practices which highlighted the factual questions such as *who, what, where, when, how many, how long*, and the like. Rarely did they drag their students to deeply search out the references for the answers. The following presents the example of the reading tasks highlighting the use of Lower Order Thinking Skills (LOTSs).

Task 2 Answer the following questions in reference to the text below.

Assalamu'alaikum Alia,

It was very interesting to read your letter about yourself and your hometown. I would really like to be your pen friend.

I'm a sixteen-year-old school student from Johor Bahru in Malaysia. Actually I **attend** an Islamic boarding school just outside the city but my family live in Kuala Lumpur. My eldest sister is a medical doctor. She will get married soon. My younger brother is an elementary school student in KL but he often writes to me via email.

My favorite subjects are social sciences. I like history very much; it helps me know more how different countries existed in the past. At school we are supposed to use English at all times, even when we are in the dormitory, so we have become quite fluent although sometimes we slip back into Malay, which is our **mother tongue**.

As for hobbies, I'm **really into** songs and music. My favorite singer is Yusuf Islam whose former name was Cat Steven. He's so cool! Another singer I like is Maher Zain with his religious songs. My favorite Malay singer is of course Siti Nurhaliza. I also like watching movies, especially comedies. The actor I like best is Tom Cruise.

I'm **really into** books. I like reading novels and short stories, mostly by Malay authors who you probably haven't heard of. I like some writers in English, like JK Rowling and Indonesian writers too, like Andrea Hirata and Ahmad Fuadi. My dream, when I'm older, is to be a writer of science fiction books set in the **distant** future.

I'd really love to come to Indonesia some day. I heard that it has the largest number of Muslims of any country. A book that I've just read mentions that there are some **magnificent** places to visit, such as, Bali, Sulawesi, Papua and Borneo! What about you, do you want to visit my country? Wassalam, Saidah.

(Adapted from *Buku Bahasa Inggris untuk SMA/SMK/MA untuk Kelas X*)

Comprehension 1

1. How does Hannah contact Alia?
Is there anybody introducing Hannah to Alia?
2. Does Hannah want to be Alia's friend?
3. Where does Hannah study?
4. Tell me about Hannah's family!
5. What are Hannah's hobbies?
6. Does she like animals?
What animals does she have?
7. What do Hannah and her
among friends love to do?
8. What profession would she like
to have after graduating
from her school?
9. She isn't interested in fashion.
Why?

In reference to the above comprehension questions, all questions are classified as the factual questions which require LOTSs, namely comprehending and memorizing of the provided texts as the questions are not accompanied by criticizing skill as one of the aspects of HOTSs. For example, Q3 asks the place of Hannah's study which can be easily answered in reference to the text. Such question can be followed by the reason why Hannah studies there which requires an analyzing question. The same type of question is also found in Q5 which deals with the hobby of Hannah. This is also a type of a LOTSs question as it only deals with asking factual information which can be easily found in the text. The same cases happen in the following Comprehension 2.

The above task also shows that all questions are categorized as questions of LOTSs as the questions are classified as factual questions.

In reference the above examples, all of English teachers realized that the above tasks did not facilitate students to critically comprehend the tasks as they were trapped to only answer the questions without justifying the reasons for the answers. In other words, students are dragged to deal with testing practices which accentuate the answers of the questions. Such testing practices drive students to put the memory in short term memory space which is potential to easily go with the wind. The English teachers further claimed that so far they highlighted the outer layer of language which mainly dealt with deconstructing the language elements and

ignoring how those language elements were used in social contexts.

Comprehension 2

Answer the following questions briefly.

1. Does Saidah want to be Alia's friend?
2. Where is she from?
3. Where does Saidah study?
4. Tell me about Saidah's family!
5. What are Saidah's hobbies?
6. Does she have favorite singers? (If yes, who are they?)
7. Does she like reading books? Which authors does she like?
8. What profession would she like to have later?
9. Is she interested in visiting Lia? How does she know Indonesia?

The voice is line with what students utter. Most of students of vocational high school of Depok 1 claimed that they mainly dealt with memorizing the vocabulary and language structure arrangements and answering the questions of the reading and listening tasks which gave an emphasis on the revealing the outer layer of language as practiced in the form of testing. According to them, such testing practices did not employ HOTSs as they were mainly concerned with the identification of the language elements and the analysis of surface elements of text deconstruction which were guided with factual questions as performed in the texts.

4. Discussion

With regard to the above findings, it is evident that both cohorts (English language teachers and students of Vocational High School of Depok I have positive perceptions of the investment of HOTSs in the development of English textbooks used for students of vocational high schools. This suggests that the writers of English textbooks have to be aware of the importance of the investment of HOTSs in the English textbooks on the grounds that the investment of the aspects of HOTSs could assist SLLs to critically and creatively do with meaning making of the provided tasks as manifested in English texts. Such critical and creative thinking skills could enhance SLLs to establish their

creativity which is required for the success for the target language attainment.

In reference to the inequal investment of LOTs and HOTSs in the English textbooks as voiced by both cohorts, English language teachers should make an effort to equalize the investment of HOTSs in the process of English language learning by providing SLLs with additional HOTSs questions. This is of great importance to deal with in order that SLLs are accustomed to employing their critical and creative thinking skills which directly or indirectly contribute to the success for the language attainment.

5. Conclusion

With regard to the above findings, it is evident that the integration of HOTSs in the development of English textbooks for students of VHS of Depok 1 Yogyakarta is positively perceived by both student and teacher cohorts. This suggests that English textbook writers should be concerned about the investment of HOTSs on the grounds that the integration of HOTSs could establish SLLs' creativity and self-regulated learning which serve as one of the determinant factors for the success for the target language attainment.

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